Richard J. Young, Ph.D.

AI Research Scientist · Computational Neuroscientist

University of Nevada, Las Vegas, 4505 S. Maryland Parkway, Las Vegas, NV 89154-3034

Office (415) 881-1115 | Cell (916) 380-2941 | ryoung@unlv.edu | deepneuro.ai/richard | ricyoung | richard-j-young | ORCID: 0000-0002-1109-7552 | Google Scholar | HuggingFace | Ollama

"Curiosity, rigor, and empathy advance healthcare innovations."

Research Philosophy: *Ph.D. in Computational Neuroscience with 15+ years of experience at the intersection of neuroscience, large language models (LLMs), and AI research. Specializing in understanding LLM cognition, multi-agent coordination, and reinforcement learning for healthcare optimization. Developed scalable, production-grade pipelines generating over one million daily predictions.*

My research bridges AI/ML innovation with neuroscience complexity through systematic, reproducible methods and open science principles. I develop large-scale foundation models that transform brain data—from electrophysiology to neuroimaging—into interpretable insights about neural mechanisms in health and disease. Committed to building community standards and open-source tools, I prioritize collaborative science that accelerates discovery across disciplines. By combining rigorous experimental design with transparent model architectures, I ensure AI systems that are both scientifically robust and practically deployable for advancing our understanding of brain function at scale.

Education

University of Nevada, Las Vegas — *Las Vegas, NV*

Ph.D., Neuroscience — *Awarded 2025*

- Graduate College, Interdisciplinary Neuroscience Program
- Dissertation: Machine Learning Methods and Transcranial Direct Current Stimulation for the Understanding and Treatment of Parkinson's Disease
- Advisor: Brach Poston, Ph.D.
- GPA: 3.96/4.0

University of Nevada, Las Vegas — *Las Vegas, NV*

M.S., Data Analytics — *Awarded 2023*

- Department of Computer Science
- Thesis: Parkinson's Disease, tDCS, and Clinical Trials Using Machine Learning and LLMs to Accelerate Clinical Trial Research
- Advisor: Jorge Fonseca, Ph.D.
- GPA: 3.94/4.0

University of Nevada, Las Vegas — *Las Vegas, NV*

B.A., Psychology, *Magna Cum Laude* — *Awarded 2017*

- Honors College
- Honors Thesis: Diversity of Minimotifs in Human Traits and Disease
- Minors: Information Technology & Neuroscience
- Advisor: Martin Schiller, Ph.D.
- GPA: 3.6/4.0

Academic Experience

Las Vegas, NV

Machine Learning Researcher | International Gaming Institute

2024 – Present

- Developed BetterBettor AI chatbot using large language models (GPT-4, Claude, Gemini) to promote responsible gambling and sport betting education, evaluated across 100+ clinical vignettes by treatment professionals.
- Applied deep embedded clustering (DEC) neural networks to analyze over 1 billion banking transaction records from 342,000+ users, identifying 23,660 at-risk problem gamblers with 12.4x ROI through early intervention in collaboration with UK researchers.
- Detected critical 3-6 month acceleration window showing 186% increase in deposit frequency, 243% increase in losses above baseline, and 167% increase in income allocation to gambling, enabling proactive intervention before crisis.
- Evaluated 5 major LLM platforms for addressing problem gambling through expert vignette analysis, published findings in Journal of Gambling Studies.

Las Vegas, NV

Part-Time Professor | Lee Business School

2023 – Present

- Teaching 3 courses (AI/ML, NLP, Business Intelligence) at graduate and undergraduate levels to 150+ students annually.
- Courses: Business Intelligence (MIS 776), Big Data Analytics (MIS 769), Business Analytics (IS 335).
- Teaching evaluations: 4.76-4.93 overall, exceeding department averages by 15-18%, college averages by 10-14%, and UNLV averages by 8-12%.

Las Vegas, NV

Machine Learning Research Assistant | Nevada Institute of Personalized Medicine

2020 – Present

- Boost predictive model accuracy by 40% by designing and optimizing 8+ algorithms (LSTM, ARIMA, feature engineering) for neurodegenerative disease analysis.
- Improve research efficiency by 30% and accelerate data processing by 50% using AI-driven methodologies, including ChatGPT for summarization and BERTopic for topic modeling, streamlining review of 3,700+ clinical trial datasets.
- Architected novel AI-powered Deep Embedded Clustering model analyzing billions of transactional data points to identify and predict complex temporal behavioral patterns, enabling proactive precision-targeted interventions.

Las Vegas, NV

Data Scientist | Nevada Institute of Personalized Medicine

2014 – 2019

- Designed and deployed HPC supercomputer for genomic data, improving computational performance by 6000% and drastically reducing processing times, enabling 100+ interdisciplinary projects.
- Developed advanced genomic infrastructure utilizing high-throughput sequencing and machine learning technologies, enabling AI-driven analytics and modeling for personalized medicine research across extensive patient datasets.
- Developed DARNN/GAN/LSTM predictive algorithm for COVID-19 detection using wastewater data.
- Applied deep learning and OpenCV (Deep Convolutional Neural Networks, multi-modal data) for early Alzheimer's disease detection, mapping genetic variants to RGB color space.

Skills

Machine Learning & AI	Generative AI, LLMs (GPT, Claude, Gemini), deep learning, neural networks, transformers, RAG, prompt engineering, fine-tuning, model evaluation, predictive analytics, supervised/unsupervised learning
Healthcare AI & Precision Medicine	Clinical trial optimization, personalized medicine, biomarker discovery, pharmacogenomics, neuromodulation (tDCS), medical imaging analysis, patient stratification, treatment response prediction
Natural Language Processing	Text mining, sentiment analysis, named entity recognition, document classification, biomedical NLP, clinical notes processing, literature mining, semantic search
Deep Learning Frameworks	PyTorch, TensorFlow, Keras, scikit-learn, Hugging Face Transformers, LangChain, deep embedded clustering (DEC), autoencoders, CNNs, RNNs, attention mechanisms
Programming & Software Engineering	Python, R, SQL, bash/shell scripting, Git, Docker, API development, object-oriented programming, functional programming, code review, version control
Cloud & Data Platforms	AWS (EC2, S3, Lambda, SageMaker), Databricks, NVIDIA AI Enterprise, Alteryx, Apache Spark, distributed computing, MLOps, model deployment
Data Science & Analytics	Statistical modeling, hypothesis testing, experimental design, A/B testing, time series analysis, causal inference data visualization (Tableau, matplotlib, ggplot2), exploratory data analysis
Big Data & Data Engineering	ETL pipelines, data warehousing, OLAP cubes, data integration, real-world evidence (RWE), claims data, EHR data, genomics data, high-dimensional data analysis
Research Methodology	Experimental design, longitudinal studies, clinical research, IRB protocols, human subjects protection, HIPAA compliance, informed consent, research ethics, reproducible research
Computational Neuroscience	Brain stimulation (tDCS), neuroplasticity, motor control, cognitive enhancement, EEG analysis, neuroimaging, computational modeling of neural systems
Business Intelligence & Visualization	Tableau, Power BI, data storytelling, dashboard design, KPI development, executive reporting, data-driven decision making, stakeholder communication
Academic & Teaching	Curriculum development, graduate/undergraduate instruction, business intelligence, big data analytics, AI/ML pedagogy, active learning, assessment design, mentoring, course evaluation (4.76-4.93)
Grant Writing & Funding	NIH grant applications, research proposals, budget development, literature reviews, preliminary data analysis, collaboration building, interdisciplinary research coordination
Scientific Communication	Peer-reviewed publications, manuscript preparation, journal review (AJMC, Springer Nature), conference presentations, technical writing, interdisciplinary collaboration, science communication
Leadership & Governance	IRB scientific membership, AI/Big Data domain expertise, protocol review, ethical advisory, policy development cross-functional team leadership, stakeholder management, regulatory compliance

Industry Experience

Las Vegas, NV

AI Research Scientist and Applied Scientist; LLM and Healthcare AI Specialist | UnitedHealth Group

2024 – Present

- Lead AI research initiatives leveraging large language models for clinical trial optimization, automated data extraction from 5,000+ research papers, and biomarker discovery in Parkinson's disease and aging research.
- Serve as IRB Scientific Member and AI/Big Data Domain Expert, reviewing 300+ research protocols annually, advising on ethical implications of AI/ML studies, and developing governance policies for generative AI in healthcare.
- Developed LLM-powered systems achieving 94% accuracy in clinical trial data extraction with 10x speed improvement over manual methods, published methodology in peer-reviewed journals.
- Impact: Systems deployed across organization serving 100+ million lives, driving 12.4x ROI through AI-powered interventions and operational efficiencies.

Las Vegas, NV

Senior Data Scientist | OptumCare

2018 – 2024

- Led data science initiatives for healthcare analytics, real-world evidence generation, and predictive modeling across Medicare Advantage populations.
- Developed machine learning models for patient stratification, treatment response prediction, and care optimization serving millions of patients.
- Published research in American Journal of Managed Care on home health referral outcomes and mortality reduction in Medicare populations.
- Collaborated with clinical teams on GLP-1 receptor agonist utilization analysis, medication switching patterns, and therapeutic outcomes research.

Selected Research Projects

International Gaming Institute, UNLV *Las Vegas, NV*

BetterBettor AI Chatbot for Responsible Gambling

2024 – Present

- **Problem:** 2-3% of US adults experience gambling disorder; limited accessible intervention tools for at-risk individuals
- **Approach:** Developed RAG-based LLM chatbot using GPT-4, Claude, and Gemini, trained on clinical guidelines and expert knowledge for responsible gambling education and harm reduction
- **Results:** Evaluated across 100+ clinical vignettes by gambling treatment professionals; published findings in Journal of Gambling Studies
- **Technologies:** Python, LangChain, OpenAI API, Anthropic API, vector databases, prompt engineering, retrieval-augmented generation
- **Impact:** First AI chatbot specifically designed for problem gambling support; collaboration with UK researchers for real-world deployment

International Gaming Institute, UNLV *Las Vegas, NV*

Deep Learning for Problem Gambler Identification from Banking Data

2024 – Present

- **Problem:** Early identification of at-risk gamblers could prevent financial harm and addiction progression; average £70,000 debt when seeking help
- **Approach:** Applied Deep Embedded Clustering (DEC) neural networks to analyze over 1 billion banking transaction records from 342,000+ users in UK open banking data
- **Results:** Identified 23,660 at-risk individuals in critical 3-6 month acceleration window; detected 186% increase in deposit frequency, 243% increase in losses, and 167% increase in income allocation to gambling; achieved 12.4x ROI through early intervention
- **Technologies:** PyTorch, CUDA (a4000/4090/H100), cuDF, cuML, autoencoders, unsupervised learning, deep embedded clustering, GPU-accelerated financial transaction analysis
- **Impact:** Demonstrates feasibility of automated early warning systems for real-time intervention before crisis; methodology applicable to other behavioral addictions; insights published in collaboration with UK researchers

UNLV Neuroscience & UnitedHealth Group Collaboration *Las Vegas, NV*

Automated Clinical Trial Data Extraction Using Multi-Agent LLMs

2024 – 2025

- **Problem:** Manual clinical trial data extraction is slow (hours per paper), error-prone, and costly for systematic reviews and meta-analyses
- **Approach:** Benchmarked GPT-4, Claude 3.5, Gemini Pro, and Llama 3.1 across 200+ Parkinson's disease trials; developed API integration pipelines with automated validation
- **Results:** Achieved 94% extraction accuracy with 10x speed improvement over manual methods; published in MDPI Algorithms journal
- **Technologies:** OpenAI API, Anthropic API, Google Gemini API, Python, pandas, automated validation pipelines, multi-agent orchestration
- **Impact:** Methodology now used for large-scale Parkinson's biomarker database extraction (5,000+ papers); enables rapid evidence synthesis for drug development

UNLV Brain Stimulation Lab *Las Vegas, NV*

Transcranial Direct Current Stimulation (tDCS) for Motor Enhancement

2020 – 2025

- **Problem:** Parkinson's disease and aging cause motor skill decline; need non-invasive interventions to enhance motor learning and reduce fatigue
- **Approach:** Conducted multiple randomized controlled trials examining tDCS effects on motor cortex excitability, muscle fatigue, and skill acquisition in healthy adults and Parkinson's patients
- **Results:** Published 5+ peer-reviewed papers in Brain Sciences; demonstrated tDCS can modulate cortical excitability and delay muscle fatigue; findings inform clinical rehabilitation protocols
- **Technologies:** Transcranial electrical stimulation, electromyography (EMG), transcranial magnetic stimulation (TMS), statistical analysis (R, Python), experimental design
- **Impact:** Advanced understanding of brain stimulation mechanisms; contributed to neurorehabilitation literature; 10+ conference presentations at Society for Neuroscience

Nevada Institute of Personalized Medicine *Las Vegas, NV*

Minimotifs in Human Disease and Genomics

2014 – 2018

- **Problem:** Short linear motifs (minimotifs) in proteins mediate critical cellular functions; understanding their role in disease requires large-scale computational analysis
- **Approach:** Analyzed minimotif variation across 1,092 individuals (1000 Genomes Project); developed Minimotif Miner 4 database with 1 million+ peptide sequences
- **Results:** Published 3 papers in Nucleic Acids Research and Alzheimer's & Dementia; demonstrated minimotifs are targets of natural selection; identified dysfunction patterns in neurodegenerative disorders
- **Technologies:** Bioinformatics pipelines, genomic data analysis, Python, R, SQL databases, machine learning for pattern recognition
- **Impact:** Minimotif Miner 4 database used by researchers worldwide; cited 100+ times; advanced understanding of genetic variation in disease

Publications

Journals

1. Young, R. J., & Matthews, A. M. (2025). CardioEmbed: Domain-Specialized Text Embeddings for Clinical Cardiology. arXiv preprint arXiv:2511.10930. https://doi.org/10.48550/arXiv.2511.10930
2. Young, R. J., Gillins, B., & Matthews, A. M. (2025). When models can't follow: Testing instruction adherence across 256 LLMs. arXiv preprint arXiv:2510.18892. https://doi.org/10.48550/arXiv.2510.18892
3. Young RJ, Matthews A & Poston B. Benchmarking multiple large language models for automated clinical trial data extraction in aging research. Algorithms. 18(5), 296, 2025.
4. Ghaharian K, Soligo M, Young R, Golab L, Kraus SW & Wells S. Can Large Language Models address problem gambling? Expert insights from gambling treatment professionals. Journal of Gambling Studies. Oct 10, 2025.
5. Ghaharian K, Peterson J & Young R. Across the Bettor-Verse: An open banking perspective on gambling in the United Kingdom. Journal of Gambling Studies. August 5, 2025.
6. Wilkins EW, Young RJ, Davidson R, Krider R, Alhwayek G, Park JA, Parikh CA, Riley ZA & Poston B. The influence of transcranial alternating current stimulation on the excitability of the unstimulated contralateral primary motor cortex. Brain Sciences. August 21, 2023.
7. Ghaharian K, Kraus SW, Young R, Golab L, Wells S & Soligo M. Evaluating LLM responses to problem gambling vignettes. OSF, October 25, 2024.
8. Ghaharian K, Peterson J & Young R. Beyond the bet: An open banking perspective on gambling in the UK. OSF, August 8, 2024.
9. Wilkins EW, Young RJ, Houston D, Kawana E, Mora E, Sunkara M, Riley ZA & Poston B. Non-dominant hemisphere excitability is unaffected during and after transcranial direct current stimulation of the dominant hemisphere. Brain Sciences. 2024, 14(7), 694.
10. Gada E, Pangburn P, Sahr C, Schaben C & Young R. Unfulfilled Home Health Referrals Lead to Higher Mortality Among Medicare Advantage Members. American Journal of Managed Care. July 21, 2024.
11. De Guzman KA, Young RJ, Contini V, Clinton E, Hitchcock A, Riley ZA & Poston B. The influence of transcranial alternating current stimulation on fatigue resistance. Brain Sciences. 13(8): 1225, 2023.

12. Lyon KF, Cai X, Young RJ, Mamun A-A, Rajasekaran S & Schiller MR. Minimotif Miner 4: a million peptide minimotifs and counting. Nucleic Acids Research. 46(D1), D465-D470, 2018.
13. Lyon KF, Strong CL, Schooler SG, Young RJ, Roy N, Ozar B, Bachmeier M II, Rajasekaran S & Schiller MR. Natural variability of minimotifs in 1092 people indicates that minimotifs are targets of evolution. Nucleic Acids Research. 43(13), 6399-6412. https://doi.org/10.1093/nar/gkv580
14. Sharma S, Young RJ, Chen J, Chen X, Oh EC & Schiller MR. Minimotifs dysfunction is pervasive in neurodegenerative disorders. Alzheimer's & Dementia: Translational Research & Clinical Interventions. 4, 414-432, 2018.
15. Tejada MB, Young R, Mercado V, Kaur K, Ikeda A & Lukkahatai N. Association of Telomeres and Telomerase with Clinical Outcomes in Children with Acute Lymphoblastic Leukemia: A Review of Literature.
16. Zhuang X, Young R, Tillett R, Cordes D & Oh E. Development of an artificial intelligence approach that employs genomic and brain imaging features to improve the diagnosis of Alzheimer's disease. Alzheimer's & Dementia. 18, e062638, 2022.
17. Tejada MB, Young R, Mercado V, Kaur K, Ikeda A & Lukkahatai N. A review of literature on telomeres and telomerase with clinical outcomes in children with acute lymphoblastic leukemia. Asian/Pacific Island Nursing Journal. 1(3), 67.

In Review

1. Gada E, Pangburn P, Sahr C, Javis M & Young R. Lower Costs, Similar Outcomes: Home Health Compared to Skilled Nursing Facilities. Target Journal: American Journal of Managed Care.

In Preparation

1. Young RJ, Fonseca J & Poston B. Enhancing Clinical Trial Data Extraction: A Novel Approach Using API Integration and Large Language Models in Parkinson's Disease Research. Target Journal: Springer.
2. Young RJ, Matthews A & Poston B. Comparative Analysis of Multi-Agent Large Language Models for Automated Clinical Trial Data Extraction in Aging Research. Target Journal: MDPI Algorithms.
3. Young RJ & Poston B. A Large-Scale Literature Extraction and Analysis of Parkinson's Disease Biomarkers Using LLM-Assisted Methods.
4. Wilkins EW, Kawana E, Lopez Mora E, Houston D, Young RJ, Boss S, Riley ZA & Poston B. The influence of transcranial current stimulation on contralateral primary motor cortex excitability. Target Journal: Biomedical Engineering.
5. Young R, Ghaharian K, Golab L, Kraus S, Wells S & Soligo M. Comparing LLM and Human Expert Responses to Problem Gambling Questions.
6. Chauhan AS, Clinton E, Wilkins EW, Young RJ, Park JA, Karavadia SD, Riley ZA & Poston B. The influence of bihemispheric transcranial direct current stimulation of primary motor cortex on muscle fatigue. Target Journal: Bioengineering.
7. Clinton E, Chauhan AS, Wilkins EW, Young RJ, Park JA, Karavadia SD, Liang JN & Poston B. The influence of bilateral dual source transcranial direct current stimulation on the progression of muscle fatigue.
8. Contini V, Wilkins EW, Clinton E, Young RJ, Davidson R, Park JA, Liang JN & Poston B. The effect of dual source premotor cortex transcranial direct current stimulation on muscle fatigue in hand muscles.
9. Bognot J, Young RJ, Clinton E, Wilkins EW, Shihady F, Riley ZA & Poston B. The influence of dual source cerebellar transcranial direct current stimulation on muscle fatigue.
10. Liddell T, Clinton E, Wilkins EW, Young RJ, Riley ZA & Poston B. The effect of transcranial direct current stimulation of the dorsolateral prefrontal cortex on muscle fatigue resistance.
11. Young RJ, Heisler EL, Zavaremi SH, Alberts JL & Poston B. Transcranial direct current stimulation applied immediately before but not during task practice improves motor skill in Parkinson's disease.
12. Young RJ, Jackson AK, de Albuquerque LL, Pantovic M, Zavaremi SH, Alberts JL & Poston B. The effects of different transcranial direct current stimulation intensities on motor skill acquisition and cortical excitability in Parkinson's disease.

Current Projects

1. Lee M, Young R & Moody GD. From Vulnerability to Resilience: Multi-Agent Strategies to Combat AI Prompt Manipulation. Target Journal: MISQ Special Issue on Artificial Intelligence-Information Assurance Nexus.
2. Young RJ, Poston B, Fonseca J & Cummings J. Parkinson disease drug development pipeline: 2025.
3. Young R. Identifying Individuals at Risk for Problem Gambling Using Deep Embedded Clustering.

Published Abstracts

1. Young RJ, Ghaharian K, Golab L, Kraus S, Wells S & Soligo M. Comparing LLM and Human Expert Responses to Problem Gambling Questions. Springer Nature International Conference on the AI Revolution: Research, Ethics, and Society (AIR-RES'25).
2. Clinton E, Young RJ, Matthews A & Poston B. Enhancing clinical trial data extraction using GPT-4, Claude 3.5, and Llama 3.1 in Parkinson's disease. Society for Neuroscience Abstracts. Washington, DC, November 2025.
3. Davidson R, Poston B, Alhwayek G, Krider R, Young RJ, Clinton E, Park J & Karavadia S. The Influence of Dual Source Cerebellar Transcranial Direct Current Stimulation on Muscle Fatigue. American Academy of Physical Medicine and Rehabilitation Annual Assembly Abstracts. Salt Lake City, UT, October 2025.
4. Davidson R, Krider R, Clinton E, Alhwayek G, Young RJ, Park J, Mouradian J, Karavadia S & Poston B. The Effect of Transcranial Direct Current Stimulation of the Dorsolateral Prefrontal Cortex on Muscle Fatigue Resistance. American Academy of Physical Medicine and Rehabilitation Annual Assembly Abstracts. Salt Lake City, UT, October 2025.
5. Wilkins EW, Kawana E, Lopez Mora E, Houston D, Young RJ, Boss S, Riley ZA & Poston B. The influence of transcranial direct current stimulation on contralateral primary motor cortex excitability. Society for Neuroscience Abstracts. Washington, DC, November 2023.
6. Tejada MB, Young R, Mercado V, Kaur K, Ikeda A & Lukkahatai N. Association of telomeres and telomerase with clinical outcomes in children with acute lymphoblastic leukemia: a review of literature. Oncology Nursing Forum. 43(2), 59-59, 2016.
7. Li H, Chauhan AS, Clinton E, Wilkins EW, Young RJ, Park JA, Karavadia SD & Poston B. The influence of bihemispheric transcranial direct current stimulation of primary motor cortex on muscle fatigue. American Academy of Physical Medicine and Rehabilitation Annual Assembly. San Diego, CA, November 2024.
8. Clinton E, Chauhan AS, Young RJ, Wilkins EW, Pamaran J, Karavadia SD, Riley ZA & Poston B. The influence of bilateral dual source transcranial direct current stimulation of primary motor cortex on muscle fatigue progression. Society for Neuroscience Abstracts. Washington, DC, November 2024.
9. Young R, Contini V, Clinton E, Wilkins EW, Park JA, Mouradian J, Riley ZA & Poston B. The influence of dual source premotor cortex transcranial direct current stimulation on muscle fatigue in hand muscles. Society for Neuroscience Abstracts. Washington, DC, November 2024.
10. Poston B, Wilkins EW, Davidson R, Krider R, Alhwayek G, Shihady F, Yi K & Young RJ. The influence of transcranial alternating current stimulation application on contralateral primary motor cortex excitability. Society for Neuroscience Abstracts. Washington, DC, November 2024.
11. Wells S, Golab L, Young R & Ghaharian K. BetterBettor: Promoting Responsible Gambling and Sport Betting Knowledge Through an AI-chatbot.
12. Peterson J, Ghaharian K & Young R. Beyond the Bet: An Open Banking Perspective on Gambling in the UK.
13. Young R & Zirath G. Longitudinal Analysis of Medication Switches and Dosage Changes Among GLP-1 Receptor Agonists. Optum Partnership Forum. Dallas, TX, April 2024.
14. Young R & Zirath G. The Effects of Discontinued Use of GLP-1 Receptor Agonists on Glycemic Control, Body Weight, and Lipid Profile. Optum Partnership Forum. Dallas, TX, April 2024.
15. Young R & Zirath G. Expanding the Therapeutic Spectrum: The Use of GLP-1 Agonists for Weight Management in Non-Diabetic Patients. Optum Partnership Forum. Dallas, TX, April 2024.

16. Zhuang X, Tillett R, Young R, Cordes D & Oh E. Associations between polygenic hazard score and Alzheimer's disease progression and biomarkers following stratification by ApoE genotypes and sex. Society for Neuroscience Abstracts. Virtual and In-Person Meeting, 2021.
17. Young RJ, Lyon K, Oh E & Schiller MR. Minimotifs in Human Traits and Disease. Nevada Institute of Personalized Medicine Symposium. Las Vegas, NV, May 2018.
18. Young RJ, Lyon K, Oh E & Schiller MR. Minimotifs in Human Disease. Research and Honors College Presentation. Las Vegas, NV, May 2018.

Books

1. Young RJ. The Neuroscience of AI: A Journey into the Minds of Machines and Humans. In progress, 2025.
2. Data Engineering with Alteryx: Helping Data Engineers Apply DataOps Practices with Alteryx — Senior Technical Editor. Packt Publishing, June 2022. (link)

Honors & Awards

2022	**Community-Based Participatory Research Award**, University of Nevada, Las Vegas	*Las Vegas, NV*
2022	**Emerging Leaders Program**, UnitedHealth Group	*USA*
2016	**Phi Kappa Phi Honor Society**, University of Nevada, Las Vegas	*Las Vegas, NV*
2016	**Nevada Organization of Nurse Leaders Scholarship**, Nevada Organization of Nurse Leaders	*Nevada*
2016	**Nevada Nurse Foundation Scholarship**, Nevada Nurse Foundation	*Nevada*
2015	**Bob Davis Scholarship**, University of Nevada, Las Vegas	*Las Vegas, NV*
2014	**Golden Key International Honor Society**, University of Nevada, Las Vegas	*Las Vegas, NV*
1999	**Student of the Year Award**,	*USA*

Teaching Experience

Teaching Philosophy: Empower students to become independent problem-solvers by emphasizing logic, critical thinking, and adaptability rather than specific tools. Foster real-world readiness through personalized feedback and active exploration, preparing students to navigate challenges in AI-driven environments. Cultivate transferable skills that enable students to view challenges as opportunities and apply their learning across diverse professional contexts.

Las Vegas, NV

Instructor | University of Nevada, Las Vegas

2023 – Present

- **MIS 776: Business Intelligence** — Graduate course covering data integration, warehousing, OLAP cubes, data mining, and reporting for competitive advantage.
- **MIS 769: Big Data Analytics for Business** — Graduate course exploring big data principles, analytics tools and methods, statistical concepts, and industry partnership projects.
- **IS 335: Business Analytics** — Undergraduate course teaching data analytics, predictive modeling, clustering, text mining using Excel, Tableau, SQL, and machine learning tools.

Las Vegas, NV

Instructor | College of Southern Nevada

2014

- **ET 108B: Telecommunications and the Information Age** — Introduction to telecommunications technology including telephone systems, LANs, fiber optics, modems, and wireless communications.
- **ET 293B: Telecommunication Transmission Methods** — Advanced telecommunications course covering transmission technologies and methods.
- **CIT 110: A+ Hardware** — PC hardware assembly, installation, configuration, troubleshooting, and customer support in preparation for CompTIA A+ certification.
- **CIT 114B (ET 198B): IT Essentials** — Computer equipment assembly and maintenance, networking concepts, cloud computing, virtualization, and security for CompTIA A+ exam preparation.

Professional Service

External Review Panels

- UnitedHealth Care Institutional Review Board — Scientific Member and Generative Artificial Intelligence & Big Data Domain Expert, 2021–Present. Responsibilities include evaluating AI/ML research protocols, advising on ethical implications, ensuring safeguards for large-scale health data, collaborating with physician members, contributing to policy development for emerging technologies, and reviewing hundreds of protocols annually.
- American Journal of Managed Care — Machine Learning and Artificial Intelligence Reviewer, 2022–Present.
- Springer Nature: Signal Transduction and Targeted Therapy — Manuscript Reviewer, 2024–Present.
- Springer Nature: npj Precision Oncology — Manuscript Reviewer, 2024–Present.
- McGraw Hill — Reviewer, Machine Learning, Advanced Analytics, Business Intelligence, 2024.
- Pediatric Tumor Board, Cure for the Kids / Sunrise Hospital — Member, 2015–2016.

Invited Talks

National Speaking Conferences

- 2025 — Optum Innovation Network: AI for Physicians
- 2024 — Alteryx: Generative AI and the Future of Education

Regional Speaking Conferences

- 2025 — Graduate College: Accelerated Research Using Generative AI
- 2025 — Optum Internal Meeting: Nvidia Rapid and Databrick Proton Optimization
- 2025 — Nathan Adelson Hospice Foundation Inc: AI and End-of-Life Care
- 2025 — Optum Network Book Club: AI for Physicians
- 2025 — Neuroscience Ph.D. Seminar: AI and the Student Scientist
- 2025 — Graduate College GRWB: AI and Thesis Writing
- 2024 — Graduate College: Gen AI — Getting Started, Benefits, Ethics, and Pitfalls
- 2024 — Nevada Academy of Family Physicians Conference: AI/ML in Healthcare
- 2024 — President's Innovation Challenge: Generative AI — Unlocking Personalized Education
- 2024 — Neuroscience Ph.D. Seminar: Uses of Generative AI and LLMs in Neuroscience

Intellectual Property & Patents

Patents

1. Systems and Methods for Determining Readmission Rates — U.S. Patent Application 18/323,518, 2023. Discloses a computer-implemented, AI-based method for determining disease-specific readmission rates using hospital admission data, including machine learning to cluster data and predict readmission risk.
2. Advanced Machine Learning System with Dynamic Adaptive Learning for Healthcare Applications — U.S. Patent Application in preparation, 2025. Proprietary AI-based methods incorporating dynamic adaptive learning and explainable AI techniques (SHAP, LIME) for healthcare analytics and clinical decision support.

Professional Organizations

- Society for Neuroscience
- Association for Information Systems

- American College of Medical Genetics
- International Neuroinformatics Coordinating Facility
- American Medical Informatics Association
- American Statistical Association
- American Society of Human Genetics

Grants

Externally Funded

Minimotif and GWAS Bioinformatics Research *Private / Amazon Web Services*
$10,000 *Aug. 2017 – Aug. 2018*
- Bioinformatics research award supporting Minimotif and GWAS investigation.

Deep Embedded Clustering (DEC) for Problem Gambling Risk Identification *Nevada Council for Problem Gambling*
$4,000 *Nov. 2024 – Mar. 2025*
- Advanced neural network methods to identify individuals at risk based on banking data.

RAG and Knowledge Bot Design *Amazon Web Services*
$20,000 *Nov. 2024 – Oct. 2025*
- Development of retrieval-augmented generation and knowledge automation systems.

OpenAI LLM Safety Research *OpenAI*
$5,000 *Jan. 2025 – Jun. 2025*
- Large language model safety research in support of healthcare and scientific applications.

Certifications

Professional Certifications

1. Alteryx SparkED Faculty Advisor 2023–2024 (link)
2. Finetuning Transformer Models Course (link)
3. Getting Started with Natural Language Processing Course (link)
4. Google Business Intelligence Professional Certificate
5. AI for Medical Diagnosis
6. Alteryx Foundational Micro-Credential (link)
7. OTU Agile Practice Novice Assessment (link)
8. Academy Accreditation — Generative AI Fundamentals (link)
9. UHG Inventor (link)
10. UNLV Responsible Conduct of Research
11. AWS Technical Essentials A
12. Architecting on AWS
13. Scitex — Capillary Electrophoresis
14. UC Davis Bioinformatics Training — PacBio Iso-Seq

CITI Training

Massachusetts Institute of Technology Affiliates

- Human Research - Data or Specimens Only Research — Refresher Course (Score: 97%, Exp: 2028)
- CITI Conflicts of Interest — Basic Course (Score: 100%, Exp: 2028)

UnitedHealth Group

- Biomedical PI — Basic Course (Score: 96%, Exp: 2028)
- Bioethics — Basic Course (Score: 100%, Exp: 2028)
- Clinical Trial Billing Compliance (CTBC) — Basic (Score: 93%, Exp: 2028)
- HIPAA for Education and Research — Basic Course (Score: 100%)
- Technology, Ethics, and Regulations — Basic Course (Score: 97%, Exp: 2028)
- Artificial Intelligence (AI) and Human Subject Protections — Basic Course (Score: 80%, Exp: 2028)
- IRB Members — Basic/Refresher (Score: 97%)
- CITI Conflicts of Interest — Basic Course (Score: 100%) | (Score: 90%, Exp: 2023)
- Biomedical Responsible Conduct of Research — RCR (Score: 94%)
- Biomedical Research — Basic/Refresher (Score: 95%)
- Biomedical Data or Specimens Only Research — Basic Course (Score: 82%, Exp: 2023)
- Information Privacy Security (IPS) — Researchers (Score: 90%)
- GCP — Social and Behavioral Research Best Practices for Clinical Research (Score: 100%)
- Public Health Research — Basic (Score: 80%)

University of Nevada, Las Vegas

- Human Research — Group 1 Biomedical IRB Course — Basic (Score: 90%, 2014) | Basic (Score: 93%, 2020) | Refresher (Score: 100%, Exp: 2028)
- Responsible Conduct of Research — Biomedical — RCR (Score: 100%, 2014) | RCR (Score: 94%, Exp: 2028)
- Export Control Training — Export Control (Score: 100%, 2021) | Export Control (Score: 100%, Exp: 2027)
- CITI Conflicts of Interest — Stage 1 (Score: 100%, 2014) | Refresher (Score: 100%, 2020) | Stage 1 (Score: 100%, Exp: 2028)

All certifications meet NIH requirements for human subjects research training.