Vinith Kuruppu

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Education

University of California, Berkeley - Master of Science in Data Science   December 2025
- **Relevant Coursework:** Applied Machine Learning, Natural Language Processing, Computer Vision, Generative AI, Python Programming, Research Design and Application, Probability and Statistics, Data Engineering, Experiments and Causal Inference

Loyola University Chicago - Bachelor of Science in Computational Neuroscience   May 2022
- **Relevant Coursework:** Deep learning for Neuroscience, Computational Modeling, Experimental Statistics, Physics, Research Methods

Skills & Technologies

Languages: Python, R, Bash, SQL, HTML/CSS, MATLAB
Libraries/Frameworks: TensorFlow, scikit-learn, XGBoost, Pandas, NumPy, Hugging Face, Matplotlib, Seaborn
Technologies: AWS, Git, Github, Docker, Tableau, Jupyter, Power BI, MySQL, PostgreSQL, MongoDB, Neo4j, Redis, SPSS

Experience

Data/ML Research Associate, RAND Corporation (Contract) – Remote   May 2024 – Present
- Conducted applied ML research using **Python** to model hospital expenses and estimate cost ceilings, enabling data-driven funding strategies across 3,300+ hospitals nationwide
- Built fairness-aware statistical models that optimized the distribution of $70 billion in COVID-19 relief funds, addressing critical public health needs
- Designed and validated quantitative frameworks for disaster response modeling, providing evidence-based insights that shaped federal emergency preparedness policies
- Authored internal publications and technical reports, delivered presentations, and synthesized findings from literature reviews to inform research methodologies, guide policy decisions, and enhance program effectiveness

Data Science Research Consultant, Exponent Inc. (Contract) – Chicago, IL   July 2022 – May 2024
- Developed and optimized **ELT** pipelines with **Python** and **SQL** to process data from 3,000+ biosensors, reducing integration time by 15%
- Led end-to-end development of data collection and validation systems for biosensor trials, ensuring 100% compliance with FDA regulations and enabling accurate real-time health monitoring
- Analyzed high-frequency biosensor data to generate actionable insights that informed product design decisions for a $12 billion consumer product line
- Diagnosed and resolved issues in proprietary study software, enhanced test coverage and accelerated product iterations in a global tech Research and Development pipeline

Computer Vision Research Assistant, Loyola University Chicago – Chicago, IL   Jan 2020 – June 2022
- Led a 6-member team applying deep learning and computer vision to model human visual perception, advancing understanding of computational neuroscience
- Improved deep neural network accuracy by 11% on visual perception tasks through hyperparameter tuning, data augmentations, and architecture experimentation in **TensorFlow**
- Performed statistical analyses using **Python**, **R**, and **SPSS**; insights shaped research strategies and supported new grant acquisition
- Developed research papers and comprehensive technical documentation, detailing data methodologies and findings that influenced visual perception research within the scientific community
- Engineered data pipelines in Python for preprocessing image and behavioral datasets, reducing data preparation time and increasing research throughput