JEREMY TAN

(510) 996-2835 | jeremy.tan@duke.edu | linkedin.com/in/jeremymtan | github.com/jeremymtan

Education

Duke University

M.S. in Data Science, GPA: 3.99

- Relevant Coursework: NLP, Statistical Modeling, Machine Learning, Deep Learning, Data Engineering, Cloud Computing
- Awards: Dean's Research Award, 2024 Duke AI Hackathon 3rd Place, 2023 Traveler Analytics Competition 3rd Place

University of California, Santa Cruz

B.S. in Computer Science

• Relevant Coursework: Data Structures & Algorithms, Artificial Intelligence, Computer Architecture, Operating Systems

Technical Skills

Programming: Python (Pandas, NumPy, PyTorch, TensorFlow), JavaScript, R, SQL, Java, C/C++ Tools: Google Cloud Platform, AWS, Docker, Git, ServiceNow, Databricks **Data Science:** A/B Testing, Regression Analysis, Causal Inference, Machine Learning

Professional Experience

Tata Consultancy Services

Software Engineer

- Santa Clara, CA • Engineered Python ETL pipeline with API integration using Apache Airflow and DocumentDB that analyzed Autonomous Vehicle (AV) metrics and CARLA simulations, saving 10+ hours weekly and increasing safety test coverage by 30%
- Constructed Python framework that ran 100+ CARLA simulations, identifying 5 critical safety vulnerabilities
- Built a YOLO-based vision system to detect and classify wiring harness connector actions in autonomous vehicle assembly. Automated monitoring of connector placement, reducing QA bottlenecks by 20%+ and improving process reliability

University of California, Santa Cruz

Information Technology Services (ITS) Business Analyst Intern

- Integrated JavaScript client scripts and custom workflows with data validation UI policies in ServiceNow, streamlining request fulfillment for 3,000+ university faculty and staff and reducing processing time by 35%
- Developed RESTful API integrations between ServiceNow and legacy systems using JavaScript and JSON, enabling real-time data synchronization across 15+ university departments

Research Experience

Duke University Social Science Research Institute	January 2024 - Present
Research Assistant	Durham, NC
• Created temperature-pair dataset from 500,000+ patient records across 3 EHR databases using Python, R, and BigQuery	
• Implemented regression models in R to quantify statistically significant racial and ethnic dispar measurements, identifying previously undetected clinical biases	rities in temperature
• Led data pipeline development for research published in PhysioNet, SCCM, and Nature submis	ssion under review
Computer Vision Lab, University of California, Santa Cruz	October 2019 - October 2023
Research Assistant	Santa Cruz, CA
• Architected 5 API features for <u>SIM</u> web application to generate tactile maps and 3D floor plans for visually impaired users	
• Enhanced map rendering performance by 40% through transition from JavaScript canvas to custom SVG implementation	
• Overhauled 4 Express routes for room segmentation tool with optimized MongoDB CRUD operations	
Tech4Good Lab, University of California, Santa Cruz Sept	tember 2019 - October 2023
Research Assistant	Santa Cruz, CA
• Deployed 4 Python-based research projects on Google Cloud Platform with Slack API integration	
• Streamlined collaboration by integrating internal meeting tool into Slack, improving scheduling efficiency by 30%	
• Devised DAG SVM model linking Stack Overflow questions to web development learning site w	vith 90% accuracy
Projects	

Multi-Agent LLM Framework for FOMC Interest Rate Prediction

- Designed and deployed multi-agent LLM framework that streams real-time macro data and Fed communications, delivering explainable FOMC rate-move forecasts with 89% accuracy for Bank of New York
- Automated a backtesting framework using statistical metrics to evaluate LLM agent performance, measuring individual prediction accuracy, group consensus consistency, and overall interest rate forecasting precision

September 2017 - June 2021

June 2021 - July 2023

March 2018 - June 2021

Santa Cruz, CA

August 2023 - May 2025 (Expected)

Santa Cruz, CA

Durham, NC

August 2024 - Present