Samuel Lee

Current University Student

(408) 650-2618 | samlee0813@gmail.com | Samuel Lee

Education

Northwestern University *Evanston, IL*

Bachelor's in Computer Science, Current GPA: 3.972 /4.0 *Expected Graduation: Fall 2024*

Focused Research Areas: Exploring interactions among features; Scene Understanding + 3D Scene Reconstruction; Deep Reinforcement Learning

Relevant Coursework: Neural Networks and Deep Learning, Machine Learning, Causal Inferences, Multi-Agent Modeling, Databases

Experience

Intuit Inc *Mountain View, CA*

Software Engineer Intern *June 2024 - Aug 2024*

- Proposed and implemented persistence enhancements to current API functionalities (Java) to more efficiently handle large-scaled (200K) transactions daily
- Designed and optimized resiliency in the backend (Java) to catch + retry unpublished transactions (Kafka), improving platform robustness for every-day use
- Ensured automation and 100% adherence to schedule by deploying persistence and resiliency onto schedulers using AWS and Kubernetes
- Understanding the codebase of financial products, contributing new features, and fixing other contributors' bugs
- Tools: Java, PostgreSQL, OracleDB, Apache Kafka, SpringBoot, AWS, Kubernetes

Northwestern Computer Science *Evanston, IL*

Research Assistant *Jan 2023 - Present*

- Building advanced Machine Learning models (e.g. Deep Learning, Large Language Models) to impute confounders for causal relationships
- Applying causal methodologies (e.g. measurement error + noisy proxy predictions) to examine causality between TTE, mortality, and smoking proxy
- Technologies and Tools: Transformers (i.e. BERT), Python, PostgreSQL(DB), PyTorch

Ford Motor Company *Dearborn, MI*

Software Engineer Intern *June 2022 - Aug 2022*

- Machine Learning features pipeline: developed an end-to-end pipeline that collects 1000+ KPI data generated from infotainment system in vehicles and visualize them through a monitoring dashboard.
- Collected requirements from senior engineers, proposed the design of the system, and received approval from the tech leadership.
- Selected for presentations for my work to senior leadership.
- Tools: Python, JavaScript, NodeJs / Express, ReactJS, MongoDB, Microsoft Azure CosmosDB, NoSQL, MySQL

Publications

Contro. for Unobserved Confounding with Large Language Model Classification of Patient Smoking Status, *Dec 2024*

Samuel Lee and Zach Wood-Doughty

- **Github Repo:** https://github.com/controllingunobservedpaper/NEURIPS_submission_2024
- Selected for Oral Presentation at Advancements in Medical Foundation Models (AIM-FM) Workshop @ NeurIPS 2024 **(7 out of 81)**
- **Paper link:** https://arxiv.org/abs/2411.03004

Exploring to Learn Winning Strategy, Samuel Lee, July 2019, IADIS International Conference Game and Entertainment Technologies 2019 **(GET'19)** *July 2019*

- **Award** – **Encouragement Award** from GET'19.
- **Github Repo:** https://github.com/penguinman6678/AI4Fun

Projects

PCAM Tumour Classification Using Deep Learning Models *Jan 2023 - Mar 2023*

- Built multiple CNN (e.g. ResNet and DenseNet) models to predict whether a lymph node scan contains tumour cells
- Experimented the models with different data augmentation techniques on images
- Selected for intergration into forthcoming class materials by the course professor
- Technology Stacks: Python, Sklearn, PyTorch

Skills

Programming Languages	Python, Java, Javascript, SQL, C
Tech Tools	PyTorch, Shell Scripting, Flask, React.js, Node.js, Express, SpringBoot, Git, GitHub
Systems + Cloud	Apache Kafka, AWS – EC2, Lambda, RDS; DBMS – NoSQL, MySQL, PostgreSQL, MongoDB, CosmosDB
Languages	English, French, Korean