Srujan Vajram

vajramsrujan@gmail.com | https://www.linkedin.com/in/srujan-vajram

EDUCATION

Columbia University   Jan 2024 - May 2025
Master of Computer Science - Machine Learning

Boston University   Sep 2016 – May 2020
Bachelor of Biomedical Engineering and Computer Science

RECENT EXPERIENCE

PathAI   Apr 2022 – Aug 2023
Machine Learning Engineer (Computer Vision)

- Developed state of the art deep learning computer vision products to detect cancer in pathology images.
- Substantial contributions towards the companies first generation of foundation models which allowed PathAI to create products in new disease areas twice as fast.
- Designed multiple machine learning experiments via fine-tuning to evaluate PathAI's first comprehensive liver cancer model.
- Collaborate with cross-functional teams i.e regulatory, product, pathology, data science and engineering to create deep learning models that are FDA compliant and performant.
- Integrated advanced imaging techniques into PathAI's model pipeline to increase performance in challenging images by 15%.
- Maintained and contributed technical documentation on research initiatives. Actively involved in feature roadmaps.

Columbia University Irving Medical Center   Dec 2020 – Apr 2022
Data Scientist

- Worked at the Hussaini Lab which focused on translational studies in Alzheimer's disease.
- Designed a number of scientific tools complete with GUI's in Python to process and study brain signals called Local Field Potentials. Turn around time for data analysis was 3x quicker.
- Sole developer of a novel virtual reality system for mice experimentation using the Unity game engine and consumer grade electronics (Arduino, Relays, Optical encoders.) Our system was much cheaper and quicker to set up than other commercial solutions at the time.

RECENT PROJECTS

NLP for Multi-Label Classification of Medical Specialties   2023
* Empirical work on ClinicalBERT language model and its efficacy in medical specialty classifications given medical transcripts.
* Designed model training and validation experiments via Hugging Face, investigated strategies to tackle poor performance for few-shot learning.

Graph Attention Networks   2023
* A simple implementation of a static attention GAT to predict if novel molecules can inhibit BACE-1 enzyme activity. BACE-1 is an enzyme heavily implicated in Alzheimer's disease.

SKILLS

Languages and OS: Python (PyTorch, Keras, scikit-learn, PyQt5), C++, C sharp, Linux
Machine Learning: CNNs, Transformers, Semantic Segmentation, Student-Teacher Models, Active learning, Contrastive Learning, Transfer Learning, Few-Shot learning
Statistics: Regression models, Generalized Linear Models, A/B Testing, Bayesian Probability.
Backend: Docker, REST
Signal Processing: Fast Fourier Transforms, Digital Filters.
Other Skills: CI/CD, Jupyter