ROHIT BANDARU

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EDUCATION

Master of Engineering in Computer Science, Cornell University — August 2018 - May 2019
Bachelor of Science in Computer Science, Cornell University — August 2015 - December 2018
Minor in Electrical and Computer Engineering

PhD level courses: Computer Vision, Machine Learning Systems, Bayesian Machine Learning, Numerical Methods
Other Courses: Machine Learning, Advanced Microcontroller Design, System Security, Signal Processing, Database Systems
Blog: rohitbandaru.github.io/blog Covering many topics of ML research (2020 - Present)

EXPERIENCE

Machine Learning Software Engineer — November 2021 - Present
Google, YouTube Ads ML — *Mountain View, CA*

- Developed a novel transformer-based user foundation model and fine-tuned it for multiple ads applications
- Applied multimodal LLMs (Gemini) to enhance video ad understanding to improve relevance and ranking predictions
- Led ML automation initiatives, leveraging AutoML and feature selection algorithms to improve quality and efficiency of models. Developed new workflows/algorithms to automatically optimize feature configurations in different models
- Launched improvements to production ads ML models improving YT Ads business metrics

Software Development Engineer — July 2019 - November 2021
Amazon, Halo Tone Science Team (Health CV ML) — *Seattle, WA*

- Develop a machine learning workflow to identify an enrolled speaker in streaming audio and provide emotion analysis, using Swift, Kotlin, Rust, CoreML, and TensorFlow
- Lead integration of ML models into the application and evaluate performance in production and on annotated datasets
- Implement prototypes of new machine learning algorithms and features to provide new functionality and improve accuracy

Graduate Teaching Assistant / Teaching Assistant — Aug 2017 - Dec 2017, Aug 2018 - May 2019
Cornell Computing and Information Science — *Ithaca, NY*

- Held office hours and developed coding assignments for Computer Vision, Machine Learning, and Database Systems courses

Software Engineer — February 2017 - May 2018
Cornell Autonomous Bicycle Team — *Ithaca, NY*

- Led the computer vision localization project for the autonomous vehicle system to understand its location and surroundings using machine learning and odometry, using Nvidia Jetson TX1, Zed Stereo Camera/SDK, and ROS

Business Lead — February 2016 - December 2018
Cornell Genetically Engineered Machines Team (iGEM) — *Ithaca, NY*

- Led the business/entrepreneurship subteam to win the 2017 Best Supporting Entrepreneurship iGEM special award over 300 international undergrad teams
- Cloned and tested two bacteriocin genes into bacterial plasmids to create a more effective treatment for bovine mastitis

RESEARCH

Domain Adaptation Worked with Professors Bharath Hariharan and Kavita Bala to create a new dataset of different types of fashion images, and use various domain adaptation techniques to improve the performance of the FashionNet model

Dynamically Adding and Removing Neurons Developed a novel iterative pruning algorithm to make neural networks more efficient on the MNIST and CIFAR datasets <link>

Extending Graph Convolutional Networks to Edge Attributed Networks Developed new architectures for graph convolutional networks (GCNs) to leverage node and edge based features <link>

Pancreatic Tumor Classification Evaluated different deep learning architectures, including 3D convolutional neural networks, on the classification of pancreatic tumors <link>

Human Movement Correction Used a microcontroller, stereo camera, and OpenCV to detect markers with 3D coordinates in order to correct human body motion <link>