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

Graduate Coursework: Computer Vision, Advanced Machine Learning Systems, Bayesian Machine Learning, Numerical Methods for Data Science, Neural Engineering, System Security, Advanced Microcontroller Design

Blog: **rohitbandaru.github.io/blog** Covering many topics of ML research (2020 - Present)

EXPERIENCE

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

- Developed a novel transformer-based *user foundation model* to generate embedding representations and predictions at the scale of over 2 billion active users.
  Implemented an end-to-end solution for finetuning, including data generation and model architecture design.
  Researched and implemented modeling improvements to improve the performance and capabilities of the model.
- Applied the video understanding capabilities of multimodal LLMs (Gemini) to improve ad relevance and ranking predictions.
- Led ML automation initiatives, leveraging AutoML and feature selection algorithms to improve model quality and efficiency. Developed workflows to automatically optimize feature configurations across different models.
- Launched 20+ quality and efficiency improvements to production models, resulting in significant growth in business metrics.

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

- Developed a machine learning workflow to process streaming audio on mobile devices to identify enrolled speakers and provide emotion analysis, using Swift, Kotlin, Rust, CoreML, and TensorFlow.
- Led integration of ML models into the application and evaluated performance in production and on annotated datasets.
- Implemented prototypes of new machine learning algorithms and features to provide new functionality and improve accuracy.

Research Assistant — February 2018 - May 2019
Cornell Computing and Information Science — *Ithaca, NY*

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

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 CV localization project, applying ML and odometry, using Jetson TX1, Zed Stereo Camera/SDK, and ROS.

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

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

RESEARCH

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>