Gati Aher

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EDUCATION

Olin College of Engineering — **Needham, MA**
B.S. in Engineering: Computing (GPA: 4.0) — *Dec 2023*
Coursework: Data Structures & Algorithms; Software Systems; Quantitative Engineering Analysis
Awards: 4-year, 50% Franklin W. Olin College Merit Scholarship; Mass. Space Grant Undergraduate Research Award (2021)
Skills: Python, R, Java, Linux/Bash, Git, AWS, React.js, Node.js, D3.js, HTML/CSS, Docker, ROS, OpenCV, Statistics, Linear Algebra, Discrete Mathematics, Machine Learning, MATLAB, C

WORK EXPERIENCE

Olin College Satellite + Spectrum Technology & Policy Group — **Needham, MA**
Undergraduate Researcher (Machine Learning, Automation, & Data Science Lead) — *Fall 2021 – Present*
- Model factors of 5G spectrum value with causal inference statistics and time-series analysis
- Automate process of document NER extraction to create more accessible FCC license database

Olin College Microbiology and Bioinformatics Research Lab — **Needham, MA**
Undergraduate Researcher (Computational Math and Applied Statistics Lead) — *Spring 2021 – Present*
- Collaborate with subject-matter experts to analyze and generate visuals for complex data (hierarchical, compositional, network, and time series datasets)
- Perform and interpret 2D Fourier analysis to measure periodic patterns in bacteria images

Indico Data Solutions — **Boston, MA**
Intern (Research & Development Team, Machine Learning Team) — *Summer 2021*
- Implemented ML-powered React.js UI for predicting, visualizing, and correcting text groupings
- Collaborated across teams and incorporated user-testing to inform rapid prototyping decisions
- Trained deep learning object-detection system to classify handwriting marks on documents
- Incorporated methods for alternate pre-training, multi-label tasks, and small object detection

The MITRE Corporation — **Bedford, MA**
Intern (ML Adversarial Attacks, DevOps, Natural Language Processing Division) — *Fall 2020, Summer 2019*
- Researching new methods to exploit vulnerabilities in machine learning-based systems
- Revived academic lab's research code for generating a paraphrase database, debugged it in a new environment, incorporated newer software packages, ran timing experiments to determine hardware needs and Hadoop configuration for running resource-intensive computation with 4x more data, modified code to run faster for our specific use-case.
- Applied logistic regression with feature engineering for classification on imbalanced dataset
- Built Docker and gRPC automated pipeline for evaluating vulnerabilities in AI models

Cumulus Digital Systems — **Cambridge, MA**
Intern (Backend Team) — *Summer 2020*
- Developed externally facing REST API for Cumulus's clients that manage their business data using generic ERP solutions and have a need to interface with Cumulus's system directly.
- Implemented REST API, Swagger, AWS CloudFront, and Serverless microservice
- Created AWS SNS, Lambda, and DynamoDB webhooks system to enable real-time data updates
- Improved API with response and request validation and automated documentation generation

PROJECTS

Full-Stack Web Application for Local Pool Management (https://www.lagaannfl.com) — *Fall 2020*
- Collaborated with clients to create custom football pool management platform for 40+ users
- Implemented scoring engine and React frontend to handle user actions, leaderboards, and admin controls
- Built with React, TypeScript, Auth0, Node.js, SQLite, PM2, Nginx. Deployed on AWS and DigitalOcean