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; Discrete Mathematics; Quantitative Engineering Analysis
Awards: 4-year, 50% Franklin W. Olin College Merit Scholarship; Mass. Space Grant Undergraduate Research Award (2021)
Skills: Python, Java, Bash, MATLAB, C, React.js, Node.js, D3.js, HTML/CSS, SQL, LaTeX, AWS, Docker, ROS, OpenCV, Statistics, Linear Algebra, Discrete Mathematics, Machine Learning

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*
- Develop time-series and network analysis pipelines to infer microbial community interactions
- Collaborate with subject-matter experts to generate effective, insightful data visualizations
- Perform and interpret 2D Fourier analysis to measure periodic patterns in bacteria surface images

Indico Data Solutions — **Virtual**
Intern (Research & Development Team, Machine Learning Team) — *Summer 2021*
- Implemented React tool for creating and editing on-document text groupings
- Collaborated across teams and incorporated user-testing to inform rapid prototyping decisions
- Trained object-detection system to classify handwriting using Faster R-CNN algorithm
- Adapted methods for alternate pre-training, multi-label tasks, and small object detection

The MITRE Corporation — **Virtual / Bedford, MA**
Intern (ML Adversarial Attacks, DevOps, Natural Language Processing Division) — *Fall 2020, Summer 2019*
- Run time experiments to determine Hadoop configuration for resource-intensive computation
- Revived and adapted academic code to generate paraphrases using bilingual pivoting technique
- Applied logistic regression with feature engineering for classification on imbalanced dataset
- Built Docker and gRPC automated pipeline for evaluating vulnerabilities in AI models

Olin College of Engineering — **Virtual**
Teaching Assistant Software Design in Python — *Fall 2020*
- Taught and graded OOPs, Design Patterns, and Python during weekly office hours

Cumulus Digital Systems — **Virtual**
Intern (Backend Team) — *Summer 2020*
- Created AWS SNS, Lambda, and DynamoDB webhooks system to enable real-time data updates
- Implemented REST API + Swagger UI serverless microservice for secure external application access
- Improved API by developing 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 to validate user actions and update rankings and React frontend to handle team selections, leaderboard displays and admin controls
- Built with React, TypeScript, Auth0, Node.js, SQLite, PM2, Nginx. Deployed on AWS / DigitalOcean