

# Gati Aher

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## EDUCATION

### Olin College of Engineering

*B.S. in Engineering: Computing (GPA: 4.0)*

**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, Linux/Bash, Git, AWS, React.js, Node.js, D3.js, HTML/CSS, Docker, ROS, OpenCV, Statistics, Linear Algebra, Discrete Mathematics, Machine Learning, MATLAB, C

**Needham, MA**

*Dec 2023*

## WORK EXPERIENCE

### Olin College Satellite + Spectrum Technology & Policy Group

*Undergraduate Researcher (Machine Learning, Automation, & Data Science Lead)*

- 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

**Needham, MA**

*Fall 2021 – Present*

### Olin College Microbiology and Bioinformatics Research Lab

*Undergraduate Researcher (Computational Math and Applied Statistics Lead)*

- 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

**Needham, MA**

*Spring 2021 – Present*

### Indico Data Solutions

*Intern (Research & Development Team, Machine Learning Team)*

- Implemented ML + React UI for predicting and correcting on-document 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
- Adapted methods for alternate pre-training, multi-label tasks, and small object detection

**Boston, MA**

*Summer 2021*

### The MITRE Corporation

*Intern (ML Adversarial Attacks, DevOps, Natural Language Processing Division)*

- 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

**Bedford, MA**

*Fall 2020, Summer 2019*

### Cumulus Digital Systems

*Intern (Backend Team)*

- 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

**Cambridge, MA**

*Summer 2020*

## 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 / DigitalOcean