

# Saakshaat Singh

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## Education

### University of Massachusetts, Amherst

Amherst, Massachusetts

B.S. IN COMPUTER SCIENCE AND MATHEMATICS

2019 - 2022

- **GPA: 4.0 | Honors | Dean's List**
- Recipient of the **Chancellor's Award** and **Dean's International Scholarship**
- **Coursework:** Data Structures, Discrete Math, Programming Methodologies, Reasoning under Uncertainty, Calc 2, Multivariate Calc, Linear Algebra

## Skills

**Languages** Python, Java, C++, Ruby, JavaScript, TypeScript, Bash, YAML

**Frameworks** Ruby on Rails, Express.js, React.js (and Redux), FastAPI, Kivy

**DevOps** Ansible, Terraform, Docker, docker-compose, GitHub Actions (CI/CD), AWS CodePipeline, git

**Web Development** AWS (EC2, RDS, S3), Google Cloud Platform, Firebase, Node.js, REST, GraphQL, Service Workers

**Software Engineering** SQL, NoSQL, Object Relational Mapping, MVC Architecture, Package Engineering, OOPs, Agile

## Work Experience

### Center for Youth Engagement

Amherst, Massachusetts

SOFTWARE ENGINEER

June 2020 - Present

- Architected an organization-wide **backend framework** in Python reducing redundant code by **25,000+ lines**, boosting development cycles by weeks, centralizing a robust codebase
- Engineered a REST API in Python with a server instance hosted on **AWS EC2, RDS and S3**, serving backend functions and data to over 50 iPad client applications for an NSF research program involving children in juvenile detention
- Modeled databases using the **SQLAlchemy** ORM through complex relationships and polymorphism and connected them to the **FastAPI** instances using **Pydantic** schemas for ORM to JSON conversions
- Collaborated with front end teams to develop a full stack system using Python, React.js, **Docker** and AWS with CD set up through AWS CodePipeline for data analysis on multiple research programs by parsing surveys and reporting back quarterly data in CSVs
- Automated AWS setups using **Terraform** provisioning for creating EC 2, RDS and S3 instances, subnets, security groups and connecting them

### Cargill Pvt. Inc.

Gurgaon, India

CORPORATE SOCIAL RESPONSIBILITY INTERN

Apr. 2019 - Aug. 2019

- Spearheaded CSR representatives throughout India in 6 locations for volunteer projects leading to accelerated employee participation by **20%**
- Audited NGO partnerships and prepared ROI analysis, leading to the creation of a **review based pipeline for logistics reporting** across India
- Launched company-wide fundraiser for recycling pen waste with NGO partner to support **2,000+ children** in poverty through upcycled stationary

## Extracurricular

### UMass Association for Computing Machinery

Largest tech club in Western Mass.

VICE CHAIR

Jan. 2020 - Present

- Leading our 5 groups through our 5 year strategic roadmap and developing frameworks to support their executive boards in their activities
- Established a marketing team augmenting member growth from **200 to 600+** winning the ACM global award for **Best Recruitment Program**
- Founded ACM ICPC, Web Development and Blockchain groups, latter led by Bitcoin co-founder *Gavin Andresen*

### Developer Student Club

Chapter of Google DSC

OPEN SOURCE DEVELOPER

Feb. 2020 - Present

- Advancing open source technologies for the common good through a network of DSC developers across campuses
- Inventing a platform for optimizing onboarding through project matching as a **stable marriage** problem in collaboration with **DSC UIUC & NTU**

## Projects

**stocksmith** open source developer library for automated stock analysis using ML & NLP | *founder*, **package engineering**, **PyPI**, Poetry

**Ocelot** maintaining inhouse transpiler used by over 1200+ students annually in CS 220 for JS projects | **TypeScript**, Elementary.js, React

**project-matching** platform for matching club members to projects through stable marriage | *founder and core-maintainer*, **ruby on rails**, DSC

**dequarantine** hack quarantine COVID hack for online social events platform | *tech lead* for 7 devs from 4 countries, backend, **FERN**, agile

**sahayak** functional **voice assistant** in Python which can search using **selenium**, do math with **Wolfram Alpha**, send emails and open apps