

## ACHIEVEMENTS

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- ICPC 2021 World Finals Competitor
  - One of 19 teams representing NA in ICPC World Finals, the most prestigious college algorithms competition.
- Google Codejam Round 2 Qualifier
  - Top 4% competitor in Google's annual international open algorithmic competitive programming competition.
- USACO Platinum
  - Platinum is the highest division in the national USA Computing Olympiad, an algorithmic competition.

## EDUCATION

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### University of Michigan, Ann Arbor

GPA: 4.0/4.0

B.S.E. in Computer Science + Music Minor

Aug. 2020–Current (Expected May 2023)

- A+ in EECS 281 (Algorithms), A+ in EECS 376 (Theory of Computation), EECS 482 (Operating Systems) In Progress
- Tau Beta Pi Engineering Honor Society, Michigan Men's Glee Club, Gimble A Cappella

## WORK AND RESEARCH EXPERIENCE

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### Amazon, Inc.

Santa Clara, CA

AWS Software Development Intern (Machine Learning Device Inference)

May 2021 - July 2021

- Exceeded expectations by completing two commercially impactful projects in eleven weeks.
- **Project 1: Containerization and Nightly Testing (7 Weeks)**
  - \* Used Docker and AWS services (EC2, S3, ECR) to containerize the AWS machine learning inference binary on multiple OS to be self contained with dependencies.
  - \* Significantly improved customer experience by removing dependency issues and allowing faster deployment.
  - \* Deployed Python testing script to run integration and unit tests on devices using containers every night.
  - \* Successfully released to customers and available to download and deploy.
- **Project 2: Python Bindings (4 Weeks)**
  - \* Generated bindings for existing C machine learning APIs using pybind11.
  - \* Bindings allowed customers to use Python interface instead of C with an easy to install and use module.
  - \* Highly requested by customers and easy to get up and running.

### UMich Biomedical and Clinical Informatics Lab

Ann Arbor, MI

Undergraduate Researcher

Sep. 2020 - May 2021

- Participated in a leading bioinformatics research lab focusing on using computing for medical purposes.
- Used MATLAB to improve a lung segmentation algorithm, automating the process of outlining lung boundaries.
- Extracted features from chest x-rays and trained a model that is 85% effective at diagnosing patients with ARDS, a highly deadly respiratory syndrome. Used the scipy library in Python.

### Vivalink, Inc.

Campbell, CA

Software Engineering Intern

Dec. 2020 - Feb. 2021

- Converted novel blood pressure algorithm from Python to C++ to allow the efficient deployment of the algorithm onto a mobile platform.

## PROJECTS

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See project source code at [github.com/allenli873](https://github.com/allenli873)

- “Pysheen Bot” (Python, Discord.py)
  - Short Python Discord bot made for my competitive programming/gaming discord server.
  - Leverages Discord API and web scraping to perform useful and fun tasks.

## TECHNOLOGIES

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- **Skills:** Experienced with Computer Algorithms. Proficient in Python, C++, Java, MATLAB, and using Docker and AWS services. Familiar with HTML, CSS, Swift.