

# Osama Esmail

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## EDUCATION

University of Illinois at Urbana-Champaign

Expected Graduation 05/2021

GPA: 3.38

- BS in Computer Science

- BS in Mathematics

## EXPERIENCE

### IMC Trading

06/2020 - 08/2020

*Quantitative Trading Intern*

- Performed analysis on block trading strategies

### Amazon

05/2019 - 08/2019

*Software Development Engineering Intern*

- Contributed to internal subscriptions API written with Spring Java Framework
- Displayed API contributions in internal tool written in AngularJS

### Illinois Geometry Lab

01/2019 - 05/2019

*Undergraduate Researcher*

- Analyzing Champaign County health inspection data to streamline future inspections
- Collaborating to create a machine learning model for the data using TensorFlow

### Illinois Rocstar

05/2018 - 08/2018

*Software Engineering Intern*

- Developed product website front-end using ReactJS, creating new components and overhauling various aspects of the front-end
- Debugged and updated Python Flask back-end, including modifying models, working with NoSQL, and adding new features to be implemented on the front-end

## PROJECTS

### Crypto Trader

- Implemented Coinbase Pro's API into a simple crypto trading bot

### Optimal Rubik's Cube Solver

- Threaded processes asynchronously in C++ to speed up a Rubik's Cube solver
- Used CUDA to further parallelize the solver

### Schedule Optimizer

- Deployed a ReactJS website (NodeJS backend) with 4 group members for making conflict-free schedules at our university.

### CS:GOtcha

- Developed fully functional first-person shooter over Spring 2017 with a friend using Unity3D and various C# & JavaScript scripts.

## RELEVANT COURSEWORK

**Computer Science:** Algorithms, Applied Linear Algebra, Applied Parallel Programming, Artificial Intelligence, Computer Architecture, Data Structures, Database Systems, Discrete Structures, Numerical Methods, Programming Languages and Compilers, Social Visualization, Statistics and Probability, Systems Programming

**Mathematics:** Abstract Algebra, Abstract Linear Algebra (Honors), Complex Variables (Honors), Differential Equations (Honors), Elementary Number Theory, Fundamental Mathematics (Honors), Real Analysis (Honors)

## SKILLS AND INVOLVEMENT

**Computer Languages:** Python, JavaScript, C++, Java, HTML/CSS3, C#

**Frameworks, Libraries and Technologies:** TensorFlow, PyTorch, NumPy, Pandas, CUDA, ReactJS, Flask, Git

**Student Organizations:** SIG AI (Artificial Intelligence), Math Contests Group, Starcourse (Concert group)

**Interests:** Chicago Bulls, Chicago White Sox, Green Bay Packers, Trivia, Cooking Shows, Futurama