SIDDHARTH GOLLAPUDI

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EXPERIENCE

Amazon *May 2020 - August 2020*
Summer Intern, AWS Robomaker

- Rewrote the ROS2 (Robot Operating System) cross-compilation tool, enabling all Robomaker clients to remotely build ROS2 applications
- Productionized a metrics dashboard for pinpointing future improvements and maintaining reliability of the tool

Stanford University *June 2015 - August 2018*
Intern, Snyder Laboratory (Stanford School of Medicine)

- Implemented Tensorflow model to predict kinase phosphorylation sites with protein sequence data
- Sped up (by 20%) script visualizing amino acid frequencies/patterns in DNA sequences for future publications
- Built proof-of-concept search engine of the human proteome using Google Cloud and Elasticsearch for convenient info access in future research

Intern, Goel Laboratory (Stanford School of Engineering)

- Examined municipal election voting data with clustering/statistical methods, and presented my findings (e.g. geographical bias, socioeconomic factors, etc.) to Prof. Goel

FIRST Robotics Team 299 *June 2016 - Present*
Co-founder, Team Mentor

- Managed logistics and leadership selection for a 30+ member team of high school students
- Curated student trainings for college applications, internships, math/programming, etc.
- Currently use git and Bazel to manage team robot codebase and train students on how to contribute to it

PROJECTS

Reading Projects and Surveys *June 2019 - December 2020*

- Read graph theory textbooks and papers with Prof. Dimitry Vaintrob from the Dept. of Mathematics
- Presented survey on the Unique Games Conjecture, a cornerstone of hardness of approximation research
- Read/Presented on optimization problems such as MAX-CUT and 3-COLOR via the Directed Reading Program
- Presented a survey on the Restricted Burnside Problem, a key result in group theory

Systems Projects *January 2020 - May 2020*

- Developed a barebones operating system (PintOS) using synchronization and kernel development principles
- Used MathWorks Simulink to create a RISC-V CPU simulation

Path-finding in a City *April 2019*

- Wrote an algorithm to find paths in a city to lost robots using online optimization algorithms using multiplicative weights and k-means, and path-finding algorithms such as Dijkstra's (more info found at http://guavabot.cs170.org)

FIRST FRC Robotics *June 2016 - March 2018*

- Wrote 4000 lines of skeleton code that allowed students to "plug-and-play" their robot subsystem code

EDUCATION

University of California, Berkeley *August 2018 - June 2021*
B.A. in Mathematics, completed May 2020
B.A. in Computer Science, completed May 2021

COURSEWORK AND SKILLS

Selected Courses	Data Structures, Operating Systems, Machine Learning, Linear Algebra, Algorithms, Computer Architecture, Number Theory, Interactive Proofs, Topology, Lie Groups, Probability, Game Theory
Programming Languages	Python, C, C++, Java, Bash, Rust
Software & Tools	git, LaTeX, pandas, Tensorflow/Keras, CMake, Vagrant, Docker, AWS EC2