HOLDEN GRISSETT

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BACKGROUND:

I'm a Computer Science student who transferred to UCLA in fall 2022. I have a passion for physics and computing, and I love investigating the places where these subjects meet. I have experience with compilers, computational imaging, coding theory, and deep learning.

EDUCATION:

Computer Science & Physics @ UCLA, *Los Angeles, CA* *2022-2025*

3.76, Dean's Honor List

- AI Safety Club, IEEE Club Pocket Racers Team Lead
- ECE classes: Computer Vision, Computational Imaging, Advanced Deep Learning Methods
- CS classes: Operating Systems, Compilers
- Physics classes: Analytic Mechanics, Electrodynamics

PROFESSIONAL EXPERIENCE:

Student Researcher *(Multiple Labs, June 2022 - Present)*

Automated Reasoning Lab

- Updated SamIam, an open source software for running inference on Bayesian Networks
- Using newly developed algorithms, we implemented an efficient counterfactual reasoning engine into the SamIam software
- Currently looking into utilizing causal inference to improve reinforcement learning algorithms for autonomous driving platforms

Communications Systems Lab

- Improved our search algorithm for Expurgated Linear Functions (ELFs) to provide the lab with higher rank ELFs that improve the performance of list decoding techniques
- Improved speed and robustness further by implementing search algorithm in Rust
- Work published to IEEE Transactions on Communications

Ozcan Lab

- Currently working on "virtual staining", a process by which machine learning is used to "stain" biopsy samples in a medical context
- Wrote a Rust application to facilitate the testing and improvement of medical residents' performance in correctly identifying biopsies stained for HER2

Software Engineer *(Formation, March 2019 - May 2020)*

- Wrote tools for maintaining RDS snapshot limits and automated tedious ops processes
- Wrote new airflow jobs and maintained existing codebase
- Saved $15k a month by facilitating migration from EC2 Redis to Elasticache
- Setup terraformed infrastructure and bootstrap scripts for Tableau and Airflow
- Developed core platform backend services, features, and infrastructure. Tools include Golang, GraphQL, Terraform, DynamoDB, S3, and API Gateway.

PROJECTS:

Pocket Racers Team Lead

- Revamped the curriculum for the Pocket Racers IEEE project into a research oriented project, with the goal of making a competition-ready autonomous RC car. Working with new reinforcement learning algorithms to make a competitive model for the AWS Re:Invent DeepRace competition

Underwater ROV

- Worked with a team to create a non-standard underwater ROV design from the ground up. We made a custom CAD design, a unique propulsion system, and custom remote control.

WINNER / 1st Place – 2017 Docker Hackathon

https://github.com/h-m-s/telnet-honeypot

- Part of a two-person team, wrote a distributed honeypot-server management service by utilizing Docker Swarm-Mode's orchestration technology. Partner wrote a telnet honeypot server which caught Mirai-bot variants.
- Honeypot's efficacy was proven during the hackathon when our testing discovered multiple Mirai-bot spinoffs and even a never-before seen malware similar to Mirai-bot

SKILLS:

Languages: Python, Rust, Haskell, MATLAB, C/C++, Terraform, SQL, Javascript, HTML & CSS, Bash, Java

Technical Experience: Linux, Unix, Kubernetes, Amazon Web Services (AWS), Embedded systems, Docker

GitHub: https://github.com/HoldenGs