langthomas@gatech.edu
(216) 678-0678

Thomas Lang

https://bopas2.github.io
US Citizen

Education

Georgia Institute of Technology — Atlanta, GA
B.S. & M.S. in Computer Science, GPA: 3.9/4.0 — *Aug 2018 – May 2022*
- **Concentrations**: Machine Learning & Information Internetworks
- **Coursework**: Data Structures & Algorithms, Objects and Design, Systems & Networks, Machine Learning

Experience

NCR Corporation — Atlanta, GA
Software Engineer (part-time) — *Aug 2020 – Present*
- Continued working on NCR's Chaos Engineering framework, focusing on user experience and solution adoption.

NCR Corporation — Atlanta, GA
Software Engineering Intern — *Jun 2020 – Aug 2020*
- Researched and built a Chaos Engineering framework to test cloud applications against infrastructure malfunctions.
- Used Python and Litmus to inject chaos and deployed the application to GCP using Kubernetes, Helm and Docker.
- Visualized test results from real applications to provide deployment insights to development teams.

Georgia Tech Research Institute — Atlanta, GA
Software Engineer (part-time) — *Jan 2020 – May 2020*
- Developed a novel text document virus detection algorithm for the Apiary malware analysis framework.
- Created new web-pages, RESTful API endpoints and search capabilities to better display results to users.
- Interfaced with MongoDB and Elasticsearch databases to access data, prototype new scripts and store results.
- Wrote extensive unit tests to ensure future functionality and updated Docker files for smarter deployment.

Georgia Tech Research Institute — Atlanta, GA
Research Assistant — *May 2019 – Present*
- Developed Python scripts that use LiDAR and GPS data collected from a plane to create 3D maps of the seafloor
- Wrote simulation and optimization algorithms to determine bathymetric environmental parameters of sea-water.
- Compiled my results and submitted a paper to the SPIE DCS conference (acceptance pending).

NASA Glenn Research Center — Cleveland, OH
Research Assistant — *May 2018 – Jun 2018*
- Tested a machine learning algorithm's memory usage in an Arduino by training a small car to avoid obstacles.

Involvement

- **Georgia Tech Automotive Research Lab**: Software team lead for the student-lead autonomous car research group. Lead ten students, via Agile, in using ROS, Python and C++ to implement self-driving algorithms and simulations.
- **RotorJackets**: Built and flew first person view drones with other students.
- **RoboJackets**: Designed and implemented a new defense strategy for Georgia Tech's autonomous robot soccer team.

Honors & Awards

- **Eagle Scout**: Achieved the rank of Eagle Scout through the Boy Scouts of America.
- **Hyland Hackathon (First Place)**: Built an Android app that encourages exercise through a videogame.
- **Capital One SES Hackathon (Second Place)**: Built a webapp that predicts Lyft ride-sharing price surges.

Projects

- **HackNCR: "Dining Insight"**: Used customer order data to create novel insights about restaurant occupancy and wait times to provide Covid-19 safety recommendations. Built using Python, Google Maps API, Flask and React.js.
- **CS4400: "Food Truck Webapp"**: A webapp for campus food trucks. Designed the SQL schema based on customer requirements. Built the backend using Node.js, Express and MySQL. Used React.js and Bootstrap for the frontend.
- **HackGT: "Alexa Freestyle"**: Developed a machine learning algorithm to create new songs from existing lyrics. Used "AWS Lambda" to handle Alexa voice requests and "AWS EC2" to host a Flask server to run our algorithm.

Skills

Languages: Python, Java, JavaScript, C++, C, x86
Technologies: Git, Node.js, Flask, React, MySQL, MongoDB, Elasticsearch, Docker, Kubernetes, Helm, AWS, GCP