

Nicholas Chalout

(478) 542.3133
nchalout3@gatech.edu
nchalout.com
github.com/nchalout

Education

- August 2017 — **Candidate for Bachelor of Science in Computer Science**, *Georgia Institute of Technology*, Atlanta, GA.
- December 2021 (Expected)
- GPA: 3.88/4.00
 - Threads: Intelligence, Info & Internetworks
 - Relevant Coursework: Algorithm Design and Analysis, Database Technologies, Machine Learning, Computer Networking, Systems and Networks, Game AI, Intro to Info Security, Intro to Artificial Intelligence, Computer Organization

Experience

- May 2021 — **Software Engineer Intern**, *NCR Innovation Lab*, Remote.
- August 2021
- To be determined
- September 2020 — **Software Engineer Intern**, *UKG*, Remote.
- December 2020
- Cut daily standup time in half by creating a dashboard with **React** and **TypeScript** that aggregates and visualizes metrics from **JIRA**, **TeamCity**, **PagerDuty**, and other internal sources
 - Discovered and resolved a race condition between a **MongoDB** database and a **C#** back-end which caused dispositions to a job application's status to be discarded
- June 2020 — **MLH Fellow**, *Major League Hacking*, Remote.
- August 2020
- Selected as **one of 150 Fellows from a pool of 20,000 applicants** to be a member of the Fellowship's inaugural class
 - Used **TypeScript** and a **cross-compilation toolchain** to implement functionality in the **AWS Amplify CLI** that allows users to write, test, and deploy **Lambda functions** with **Swift**
 - Wrote user-facing documentation and guides, as well as developer-facing design documents, with the AWS Amplify team
- May 2019 — **Software Engineer Intern**, *DataScan*, Alpharetta, GA.
- August 2019
- Established pattern for new **REST API endpoints** in a **Spring Boot** application that perform lightweight existence/authorization checks for subresources
 - Relocated frequently accessed, but rarely modified, information from an **Oracle database** to a **Redis** in-memory cache
- January 2018 — **Rise Up Undergraduate Assistant**, *College of Computing, Georgia Institute of Technology*, Atlanta, GA.
- May 2020
- Led weekly webinars and monthly in-person sessions, explaining and demonstrating fundamental computer science concepts to groups of 30 Georgia high school students
 - Helped organize and run the 2018 and 2019 **AP Bowl**, during which **over 300 Georgia high school students** took a mock AP Computer Science exam on Georgia Tech's main campus

Involvements

- August 2019 — **GT Solar Racing**, *Telemetry Team Member*.
- Present
- Redesigned a two-way telemetry message protocol to support 4x more message types to and from the vehicle
 - Maintaining server written in **Go** that listens for and processes the vehicle's vitals in real time via a **TCP connection**
 - Integrating **Grafana** visualization tool with **InfluxDB** to monitor the state of the vehicle as it races

Personal Projects

- Command Line Interface
- lancp**, *A simple tool for easily transferring files between two machines on the same network.*
- Used **Go** to write a tool that is similar to **scp** and **rsync**, but more convenient to use
 - Allows two devices to discover each other with passphrases sent in plaintext through **UDP broadcast messages**
 - Sends file contents over a secure **TLS connection** after generating and exchanging a **self-signed certificate**
- Discord Bot
- HMM Mimicker**, *Generates messages of the same vocabulary and sentence structure as a corpus.*
- Uses a **hidden Markov model** built from a customizable corpus to produce messages in a Discord text channel
 - Used **Go** to implement a content generation model, and to build a bot which parses commands from users and posts messages
 - Wrote a comprehensive **unit and integration test suite**. Deployed as a **container image** to **Google Cloud**
- Web Application
- Friendly Competition**, *Compares a League of Legends player's recent in-game performance with that of their friends.*
- Aggregates and visualizes hallmark in-game statistics for four players, letting them compare themselves to each other
 - Wrote a **Node.js** application to fetch and analyze in-game performance data from RESTful APIs
 - Used **React** and **JavaScript** to build a web front-end that displays those results with **Chart.js**

Skills and Attributes

- Languages TypeScript, JavaScript, Go, Java, Python, Swift, HTML, CSS
- Frameworks React, Redux, React Native, Spring, Express, Jest
- Technologies Git, Docker, Amazon Web Services, Node.js, GNU/Linux, PostgreSQL, Grafana, InfluxDB, Redis