# Derek Curry

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## Experience

**HCL Technology** | *Go, Echo, Kubernetes, GCP, Docker, Prometheus, API* May 2023 – December 2023
*Software Engineer Intern* *Cary, NC*

- Leveraged Google Cloud Platform and GKE tools to debug, test, and implement new features
- Developed a service for querying Kubernetes cluster usage across environments to reduce overhead using Prometheus, Docker, and GCP, alongside another intern
- Created Swagger OpenAPI pages for easier use of endpoints
- Created, modified, and debugged RESTful API endpoints

## Education

**North Carolina State University** August 2021 – May 2025
*Bachelor of Science in Computer Science, Minor in Mathematics* *Raleigh, NC*

- *Major GPA 4.0*
- *Cumulative GPA 3.94*
- *Dean's List*

## Technical Skills

**Languages**: Java, C/C++, Go, JavaScript, HTML/CSS
**Frameworks**: Kubernetes, Bootstrap, Node.js, Angular, JUnit, Gin Web, REST, Apache, OpenAPI, Echo
**Developer Tools**: Git, Docker, Eclipse, Google Cloud Platform, VS Code, Visual Studio, Linux, JetBrains Tools, Prometheus

## Projects

**Blockchain Transaction Processor** | *Go, MongoDB, HTML/CSS, RESTful API* February 2022 – March 2022

- Allowed users of a service to pay for a selected product using cryptocurrency
- Implemented RESTful API endpoints for communication
- Associated users with transactions in MongoDB, verify transactions securely, and generate license keys
- Built into a full stack website selling cryptocurrency trading software with additional features

**Pathfinding Visualization** | *Go, WebAssembly, HTML, CSS, JavaScript* July 2022 – August 2022

- Browser based pathfinding visualization
- Implemented Dijkstra's Algorithm in Go
- Used WebAssembly to communicate with JavaScript frontend

**Tesla MCU Reverse Engineering**

- Setup a bench top control unit to begin research on what controls the entire car and how it could be modified
- Discovered onboard diagnostic pins for reading and disassembling firmware, and data traffic analysis
- Aim to find vulnerabilities in the hardware or software leading to the Gateway that controls car communication

**Automated Cryptocurrency Trading** | *Go, GoEthereum* November 2021 – February 2022

- Automatically purchase and sell cryptocurrencies
- Implemented configurable indicators and concurrency for faster trading

## Extracurricular

**Tesla Rebuild** June 2022 – June 2023

- Purchased a crashed Tesla Model 3 to repair and learn how EVs are designed
- Great exercise in problem-solving – resolved body, mechanical, electrical, and software problems with little to no information or proper tools
- Sparked interest in reverse engineering the car computer after learning about all of the systems it manages

**Eagle Scout** August 2016 – August 2021

- Planned a community project – fundraising, creating design plans, procuring materials, and leading a group to create eyeglass collection boxes to place around the town of Apex
- Planned community clean up projects, provided supplies, and oversaw safety and risk management