

# Alejandro Ruiz

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## EDUCATION

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### Carnegie Mellon University

*Bachelor of Science in Electrical & Computer Engineering*

Pittsburgh, PA

Aug. 2019 – May 2023

## EXPERIENCE

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### Software Engineer

June 2023 – Present

*Google - Google Cloud Storage Key Management*

*New York, NY*

- Create functions, handlers, and modules to support different API integrations
- Lead the migration of a service from using multiple pools to a single unified pool
- Engage in meetings to organize the team's bug assignments into their right categories

### Software Engineer Intern

May. 2022 – August 2022

*Google - Google Cloud Transfer Appliance*

*Seattle, WA*

- Implemented a command-line tool that performs various health checks at the hardware, software, network and application layers of the Edge Appliance utilizing Go and Linux (see [here](#))
- Deployed on 100s of appliances and expected to simplify the debugging process and improve user experience

### Software Engineer Intern

June 2021 – August 2021

*Pi-Lit Technology*

*Tustin, CA*

- Developed an application that parsed raw acceleration data to determine the total distance traveled in Python
- Developed a GUI that performed quality assurance for the impact sensor product line (AIMS) in the board manufacturing process

## PROJECTS

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### Football Tracker | *Python, Django, BeautifulSoup, JavaScript, AJAX, HTML, CSS*

April 2023 – May 2023

- Built a soccer web-app, in a team of 3 people, where users can build a profile, check statistics of their favorite teams, and interact with others
- Utilized BeautifulSoup to scrape data of the teams such as top scorers, assisters, live games, and recent game results
- Used HTML and Bootstrap to implement the front-end, while the back-end used Python, Django, Javascript and AJAX

### LSP Protocol & Distributed Bitcoin Miner | *Golang*

October 2022

- Implemented the Live Sequence Protocol, a protocol that lies in between UDP and TCP using Go
- Utilized techniques such as acknowledgements, epoch events, and exponential backoffs
- Used the LSP protocol to implement a bitcoin miner by utilizing several distributed miners, a server, and a client

### WiFi-Receiver | *Python*

February 2022

- Built a Wi-Fi decoder that is able to take a Wi-Fi signal and return the corresponding message using Python
- Implemented preamble detection, OFDM demodulation on the signal, and turbo decoding on the message
- Implemented the Viterbi algorithm from scratch to convert the output bits of some polynomial generator to the input bits
- Made a de-interleaving algorithm to obtain the message sent

### Content Distribution Server | *Python*

April 2022 – May 2022

- Created a link-state routing protocol for a network of computers using Python
- Multi-threaded program which enables multiple clients to connect to the same server and obtain data from the terminal such as their neighbors, the network map of all computers connected to the server, and the shortest distance to each other computer using Dijkstra's Algorithm

## SKILLS

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**Programming:** Python, Go, C++, C, SQL, MATLAB, JavaScript, HTML/CSS

**Fluent Languages:** Spanish, English