River Gillis
github.com/rivergillis

Email : jrivergillis@gmail.com
Mobile : +1-405-837-6435

Education

- **University of Arkansas** — Fayetteville, AR
  Bachelor of Science in Computer Engineering; GPA: 3.9/4.0 — *Aug 2015 – May 2019*

Programming Skills

- **Languages**: C++, Python, Java, JavaScript, SQL **Technologies**: Android, React, React Native, Redux

Experience

- **Google** — Mountain View, CA
  Software Engineering Intern — *Summer 2018 (Present)*
  - **Daydream**: Working on the Daydream AR/VR Platforms team to implement Google's reference implementation for the upcoming OpenXR mixed reality standard.
  - **Efficient Frame Timing**: Using C and C++ inside Android's NDK to implement efficient frame timing functionality for head-mounted displays and smartphone AR/VR.
- **University of Arkansas** — Fayetteville, AR
  Research Assistant — *Spring 2018*
  - **Teacher Job Matching**: Worked on a web app that allows teachers searching for jobs to find and apply to positions that match their preferences and accreditations.
  - **Full Stack**: The app was built using React to control views, Redux to control state, and Firebase with Cloud Firestore to handle backend tasks.
- **Google** — Mountain View, CA
  Engineering Practicum Intern — *Summer 2017*
  - **Network Topologies**: Developed a utility in C++ to expand and manipulate topological entities and associated network traffic under Google's Network Infrastructure Team.
  - **Performance Benchmarking**: Created a benchmarking utility in C++ to measure the performance of network traffic engineering solutions at scale.
  - **Testing**: Established a more stable testing environment for the team, allowing for more reliable performance metrics.
  - **Visualization**: Created a web-based front-end for visualizing the newly collected performance data using BigQuery and Google Charts.
  - **Automation**: Established an automated system for alerting on performance regressions for the team.
  - **GoogleServe**: Volunteered for the children at the Boys & Girls Club of Silicon Valley as part of GoogleServe 2017.

Projects & Hackathons

- **Blockchain Hackathon**: Worked with a team of five to create a blockchain-based solution for tracking product as it moves from farms (or other supply sources) to distribution centers using Hyperledger Fabric.
- **TIS-100 Emulator**: Developed a Python program to simulate the instruction set and node-based architecture of the fictional TIS-100 computer.
- **Register System**: Developed an Android frontend to interact with a point-of-sale server that allows for authentication, inventory access, and transaction creations.
- **Ray Caster**: Created a physics-accurate ray caster in C++ that implements Phong reflections and shadow casting.
- **Web Crawler**: Developed a web crawler using Python. Capable of scouring the web and parsing pages for links using BeautifulSoup.
- **CPUs**: Designed a 5-stage pipelined CPU in VHDL implementing a subset of the MIPS instruction set. Followed up with a synthesized CPU written in Verilog controlled via a bus and finite state machines.

Honors & Awards

- **Academic**: Chancellor's List 4 semesters; University honors program
- **Philanthropic**: President's Volunteer Service Award (2017)
- **Scholarships**: Google-Udacity Android Nanodegree Scholarship (2018); Arkansas Academy of Computing Scholarship (2017)