

# Harrison Downs

GitHub: <https://github.com/harrisondowns> — Website: <https://www.harrisondowns.com>

## **EXPERIENCE**

**Google Search** – Cambridge, MA – September 2023 - Present

### ***Senior Software Engineer***

- Led a team of five engineers to rewrite Google Search's largest testing framework in C++ and reduce average runtime from 60 minutes to 30 minutes.
- Used algorithm optimizations and better concurrency to bring CPU requirements from 6,000 cores to 2,000 cores and reduce network utilization by 25%.

**Google Assistant** – Cambridge, MA – June 2019 - September 2023

### ***Software Engineer***

- Doubled automated test coverage for critical backend servers by implementing new regression testing frameworks using C++, Kotlin, and Perforce p4.
- Worked with cross-functional stakeholders to develop an automated tool to catch 400+ version skew issues using C++ and Dart, preventing multiple external outages.
- Served as a tech lead for one year by mentoring four junior team members, running weekly meetings, setting quarterly goals, and updating management on work progress.

**Google Stadia** – Waterloo, ON – June 2018 - August 2018

### ***Software Engineering Intern***

- Developed a system tray application for supporting third-party game development on Google Stadia using C#, Golang, and Git.

**Tufts Human-Robot Interaction Lab** – Medford, MA – October 2016 - May 2018

### ***Research Assistant***

- Developed an interface for simulating human interaction with a Mars Rover using Java, Javascript, Python, and PHP.
- Developed a simulated spaceship using Unity for running experiments on human-robot interaction in Virtual Reality.

## **OTHER PROGRAMMING PROJECTS**

- Taught 25 teenagers how to program in Swift, C#, Python, and C++ during one-week and two-week camp sessions for iD Tech during the summer of 2017.
- Led winning hackathon teams for: Tufts Polyhack 2017 (1st place), Tufts Sonos Challenge (2nd place), PennApps 2018 (top-10), Brackeys Game Jam (top 10%), Pirate Software Game Jam (top 10%).
- Developed and marketed the “Wasteland” modification for Minecraft that changed the default world to a barren desert. This mod was downloaded over 100,000 times in 3 years.
- Developed and sold two iOS math education games on the Apple App Store.

## **EDUCATION**

**Tufts University School of Engineering** – Medford, MA

- B.S. in Computer Science, completed May 2019. Magna Cum Laude. Minor in Drama.