

Herbie Rand

(507)·363·2376 ♦ hjrand1005@gmail.com ♦ github.com/hrand1005 ♦ linkedin.com/in/herbie-rand

EXPERIENCE

Software Engineer

Aug 2021—Present

Lutron Electronics, Philadelphia, PA

- Collaborated in team of 3 to develop software for lighting control processors used by millions worldwide
- Rewrote routing package to enable more sophisticated requests for proprietary TCP/IP messaging protocol
- Resolved time-sensitive bugs on features such as Apple Homekit to unblock firmware releases to core products
- Designed and implemented integration testing framework used by over 40 developers to test new API endpoints
- Automated the tests using Jenkins CI Pipelines to save thousands of hours of manual regression testing
- Eliminated manual database upgrades by writing Bash scripts and adding them to Jenkins CI Pipeline
- Parallelized test execution and eliminated setup redundancies to reduce build times by 50 percent

Undergraduate Researcher

May 2020—Aug 2020

Swarthmore College, Swarthmore, PA

- Collaborated with two professors and one peer to build a model relational database management system in C++
- Designed memory layer to support multiple replacement policies; implemented clock-replacement algorithm
- Improved the project to enable concurrent access to buffer pool and disk storage; stress tested using C++ threads
- Model (SwatDB) successfully used for computer science electives at Swarthmore College
- Docs: www.cs.swarthmore.edu/~newhall/cs44/f20/swatdb/docs

Student Systems Administrator

May 2019—May 2021

Swarthmore College, Swarthmore, PA

- Wrote a Python Library to generate grafana dashboards from zabbix system-monitoring statistics
- Generated dashboards for CPU load, memory usage, and system uptimes of over 150 lab machines for faculty use
- Automated software installations and updates for these lab computers using Bash and Ansible
- Taught Swarthmore students to use the UNIX shell to navigate filesystem and modify their data usage quotas
- Docs: github.com/hrand1005/grafapyAPI

EDUCATION

Swarthmore College

GPA 3.70

Bachelor of Arts, Major in Computer Science, Minor in Philosophy

May 2021

- Relevant Courses: Data Structures and Algorithms, Computer Systems, Software Engineering, Algorithms, Programming Languages, Networks, Machine Learning

PROJECTS

McSweeney | Go, Bash | github.com/hrand1005/mcsweeney

- Built a CLI application that consumes Twitch and Google APIs to compile and publish videos to Youtube
- Learned to use FFmpeg to concatenate disparate video and audio streams to a consistent format
- Optimized performance by parallelizing API requests and video encoding using Go's concurrency mechanisms

Training-Notebook | Go, Bash, Python | github.com/hrand1005/training-notebook

- Designed and implemented HTTP REST-API server for a training notebook application
- Created multiple implementations to learn/compare modern tooling, web-frameworks, architectures, and databases
- Frameworks/Libraries: Gin, Fiber, Gorilla/Mux, SQLite, Mongo, Godotenv, Go Validator, Go JWT

TECHNICAL SKILLS

Languages	Go, Python (Advanced); Bash, Groovy, C++ (Intermediate); C, C#, OCaml, Java (Familiar)
Frameworks	Gin, Gorilla/Mux, Fiber, Flask, Behave (Advanced); Go-SQLite, MongoEngine (Intermediate)
CI Tools	Jenkins, Github Actions, Docker (Intermediate); JFrog Artifactory, Kubernetes (Familiar)

INTERESTS

Violin: Six time Swarthmore College Orchestra Concertmaster; MN All-State, NAfME violinist; avid chamber musician

Weightlifting: Qualified and competed in the 2020 University National Championships for Olympic Weightlifting