Patrick May

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WORK EXPERIENCE

Junior QA Automation Engineer, Webstaurant Store   May 2023 - July 2024

- Automated Quality Assurance tests using Groovy scripts, an in-house Selenium wrapper, and various MSSQS queries.
- Practiced leadership in an agile development environment, through running weekly standup one day per week, estimating backlog items' difficulty, and raising ideas for improvements in developer productivity.
- Mentored teammates and interns on various programming tools to aid in automation tests, such as vim motions, jetbrains debugging, methods-as-functions, explicit typing, etc.

Software Engineering Researcher, Carnegie Mellon University   Summer 2022

- Conducted novel research in the area of secure programming in computer science education
- Designed a user study, gathered research subjects, and analyzed over 20 hours of interview data
- Presented findings through poster, powerpoint, and text mediums to various professors and government agencies

Teaching Assistant, The College of Wooster   January 2023 - May 2024

- Assist students in understanding concepts and applications within discrete math, introductory data structures, and algorithm analysis courses.
- Lecture about select computer science topics and create handouts to aid in students learning throughout lessons
- Mentor peers with post-undergrad prospects, directly helping 10+ students find internships in desired field

Trustee/Secretary/Vice President, Jenny Investment Club   September 2020 - May 2024

- Research and manage the student-run club's investment portfolio of ~$13 Million in assets, to outperform the Russel 2000 ($ RUT) by 16% avg, annually
- Monitor portfolio risk and manage portfolio to keep risks within desired volatility parameters
- Manage officers and club activities to increase participation, engagement, and diversity through outreach initiatives

PROJECTS

SEA, a Static Energy Analyzer   thesis paper 🌐

- Researched static program analysis methodologies, worst-cost-execution-time, compilers, computer architecture, cost relations, etc. resulting in a 100+ page senior undergraduate thesis.
- Created a SEA tool, a software pipeline from inputted assembly code to estimated energy "cost" to execute the program.
- Tested the SEA empirically through comparing empirical test-bench results acquired from a Raspberry Pi 4 B.

Independent Study Predictor   postmortem 🌐

- Created a webscraper using Go to harvest 12,000 college theses papers' metadata.
- Automated retrieval of all 6,000 accessible full-text pdf theses using python and selenium.
- Constructed a 6,000 entry by 92 observation dataset using GPU accelerated natural language pipelines and existing lexical analysis software.
- Performed data analysis and fitted logistic regression models to the lexical thesis data using R to determine predictors of exemplary theses.

CowProf, a Dynamic Energy Profiler   project repo

- Researched dynamic program analysis tools, profilers, and energy measurement tools that culminated in a 25 page research paper
- Created a tool for energy profiling utilizing techniques such as metaprogramming and higher order functions
- Wrote wrappers for CowProf in Python and C++, and performed data visualization using polars, a Rust data library

SKILLS

Programming (Experience: More -> Less)

Python   Groovy   Java   C++   Zig   SQL   Dart   R   C   Haskell   Bash   Go   ARM ASM   Rust

Tools/Frameworks/Etc.

Git   Linux   WSL   NeoVim   polars   numpy   Flask   Flutter   Azure DevOps   MSSQS   CMD   Docker   Wireshark

EDUCATION

The College of Wooster, Wooster, OH   August 2020 - May 2024

Bachelor of Arts in Computer Science, Minors in Mathematics, Music   **GPA: 4.0/4.0**

Accolades: Class Rank #1, Edward Taylor Prize, College Scholar Award, Music Performance Award, Dean's List