Patrick May

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Work Experience

Software Engineer, Bank of New York, Wealth Services — August 2024 - present

- Maintained and contributed on features for an alternative investment trading platform in a bespoke, event-sourced python system
- Built custom continuous integration/continuous deployment (CICD) gitlab pipelines to improve developer experience and eliminate duplicate steps
- Develop solutions at all layers of the technology stack (Angular, Java Spring Boot, MongoDB, OracleDB) for Wove, BNY Pershing's new wealth as a service platform
- Implemented microfrontends to display financial reports and connected to an existing designer software while documenting the process for future components.

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.

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

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

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

Tools/Frameworks/Etc.

Git Linux WSL Angular Spring Boot polars numpy Flask Flutter Azure DevOps MSSQS Docker Wireshark

Education

The College of Wooster, Wooster, OH

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