

KEVIN ROCHE

Software Engineer



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Specialties & Skills

Full-Stack Development
Python Development
Theoretical & Applied Mathematics
Computer Algorithms
Data Science
Agile Methodologies
Code Debugging
Code Documentation
Computer Networking Concepts
Attention to detail
Self-directed learning
Clear communication

Technical Knowledge

Programming Languages: Python,
JavaScript, HTML/CSS, Java, C++, C,
Rust, LISP

Databases: PostgreSQL, MySQL,
MongoDB

Web Technologies: Node.js, Vue.js,
WebAssembly

Data Science: pandas, Jupyter Notebooks

Cloud Computing: Docker, AWS

Project Management: Git, Jira, Teams

IDEs: Visual Studio Code, Eclipse

Awards

**Dr. James Salter Award in Computer
Science** (top graduating Computer
Science student, 2020)

Dr. Mary Salter Award in Mathematics
(top graduating Mathematical Science
student, 2020)

**Fr. Dan Egan Award for Outstanding
Senior in a Bachelor of Science
Program** (top graduating student in any
Bachelor of Science program, 2020)

PROJECTS

RUBIK'S ENGINE

- Wrote a JavaScript framework to represent the state and moves of the Rubik's Cube and its variants and designed a corresponding web interface.
- Wrote an efficient meet-in-the-middle algorithm which can be run in the browser to solve the 2x2x2 Rubik's Cube optimally.
- Technologies used: JavaScript, Rust, WebAssembly.

CHECKERS BOT

- Coded the algorithm which won my team's checkers bot first place out of 6 teams in the in-class competition for my Artificial Intelligence course.
- Technologies used: Python.

WORK EXPERIENCE

SOFTWARE DEVELOPER • INDEPENDENT CONTRACTOR

Jan 2021 – Jun 2022

- Worked with a startup hedge fund to develop 10,000 lines of code to scrape, clean, store, and analyze 20+ years of financial data for 10,000+ companies.
- Engineered a data pipeline to support ongoing backtest research and monthly stock trading decisions.
- Performed quality checks to improve existing financial models and carried out extensive data analysis to determine feasibility of investment strategies.
- Thanks to my code, the fund was able to beat the S&P 500 by 11% over its first five months.
- Technologies used: Python, pandas, Matplotlib, PostgreSQL, Docker, Amazon Web Services, Git.

SOFTWARE ENGINEERING INTERN • NEXT CENTURY CORPORATION

Jun 2019 – Aug 2019

- Worked in an Agile environment to build a kiosk application to connect active-duty military to resources at Fort Meade (www.ftmeaderesiliency.org).
- Collaborated with a member of the UX team to turn mockups into functional app features and met with the client monthly to present progress and get feedback.
- Built a backend, API, and frontend from scratch.
- Technologies used: JavaScript, Vue.js, HTML/CSS, PostgreSQL, Node.js, Docker, Git, Microsoft Teams, Jira.

JAVA DEVELOPER INTERN • ASPECT SECURITY

Jun 2016 – Aug 2016

- Wrote test cases for OWASP Benchmark project by creating code snippets to simulate vulnerabilities such as SQL injection.
- Technologies used: Java, SQL, Git.

EDUCATION

FRANCISCAN UNIVERSITY OF STEUBENVILLE • B.S.

Aug 2016 – May 2020

- **Majors:** Mathematical Science & Computer Science
- **Minor:** Philosophy
- **Honors:** Summa cum laude (GPA: 4.00)