Peter Koncelik

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EDUCATION

Vanderbilt University — Nashville, TN
B.S. Computer Science, Applied Mathematics, Classics (Cumulative GPA: 3.91) — *May 2021*
Relevant Coursework: Web-Based System Architecture, Artificial Intelligence, Algorithms, Operating Systems.

WORK EXPERIENCE

Capital One — (Virtual) McLean, VA
Software Engineer Intern — *May 2020 - August 2020*
- Built REST API's in Spring Batch for a full-stack application to tokenize disparate processing data in real-time, and to automatically calculate performance metrics of Capital One's primary document ingestion application.
- Re-architectured batch ingestion PostgresQL instances and corresponding queries to reduce execution redundancy, and to enable up to 10x faster UI responsiveness.
- Integrated and developed a frontend UI in Angular.js to expose simple batch application controls, and to cleanly display millions of job-processing entries to customers.
- Wrote custom scripts and refactored existing pipeline tooling to deploy application components with a modern managed-pipeline paradigm using Jenkins, Docker, and AWS.

Institute of Space and Defense Electronics — Nashville, TN
High-Performance Computing Researcher — *Jan 2020 - Present*
- Research under NASA sponsorship with Vanderbilt ISDE on the effects of outer-space radiation on the computers of astronauts aboard the International Space Station.
- Develop test algorithm libraries written in ARM/x86 Assembly and C to benchmark the performance of microcontrollers and detect errors in fault registers.
- Collaborate with Electrical and Computer Engineers to orchestrate code tests on microprocessors irradiated with a pelletron beam to simulate outer space radiation effects.

MTD Products — Cleveland, OH
Software Engineer Intern — *May 2019 - August 2019*
- Built a full-stack web application in Node and React to track online orders throughout the online order process and to provide previously-inaccessible information to hundreds of employees.
- Engineered backend functionality to enhance error tracking, corporate-wide order mailing, and configuration data maintenance for increased software security and speed.
- Developed enhancements to automate the synchronization of variable database information and the updated master product catalog, processing 10M+ lines of XML per execution.

Vanderbilt University — Nashville, TN
Teaching Assistant (Math and Computer Science) — *January 2019 - Present*
- Teach weekly sections and hold office hours to improve students' problem solving skills in linear algebra, calculus, and discrete mathematics.
- Assist hundreds of students in office hours each week in building and debugging their programming assignments; grade and give feedback to student submissions.

SELECTED PROJECTS

- **RAD Reliability**: Test algorithm suite with bootloader written in Assembly/C to test microcontroller performance.
- **Latin Scansion**: C++ application to automatically scan and display the meter of user-supplied ancient Latin Poetry.
- **Trimap Config Loader**: Npm module that builds custom data structure of application data for O(1) lookup speed.

EXTRACURRICULAR INVOLVEMENT AND LEADERSHIP

- **VandyApps** (*Treasurer*): Present a weekly lecture on asynchronous programming, and collaborate with companies to fund and organize on-campus recruitment events for Computer Science students.
- **Synergy Tutoring** (*Fundraising Chair*): Lead organization fundraising and work with the Nashville School District to provide university tutoring and mentorship services for underprivileged students.

TECHNICAL SKILLS

- **Languages/Frameworks**: Node.js, Java, C++, React.js, JavaScript, HTML/CSS, C, Assembly (arm/x86), Python.
- **Tools/Technologies**: Git, Bash, PostgresQL, MySQL, Docker, Jenkins CI, AWS, SFTP, MongoDB.