John Derr

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Education

University of Wisconsin - Madison   Expected May 2025

Double Bachelors' in Computer Science and Data Science   GPA: 3.57

- Relevant Courses: Java (OOP + JUnit5), Calc 2, Networks, Optimization, OS Dev, Theory of Algos, Intro to AI

Computer Skills

- **Programming Languages**: Java, Kotlin, Python, HTML/CSS, C/C++, C#, SQL, JavaScript, TypeScript, Go, Git
- **Programming Frameworks**: Spring Boot, Flask, React.js, AngularJS, Pytorch, Kubernetes, Node.js, Django
- **Operating Systems**: Windows, Linux/Unix

Experience

UW-Madison, College of Engineering   **Madison, WI**

Integration Engineer Intern   *May 2024 - Present*

- Developed 2 REST API microservices using Spring Boot Framework, replacing outdated SOAP APIs to modernize system architecture that is deployed via Docker to Kubernetes.
- Migrated Oracle SQL queries to JPA-based queries on a new schema, ensuring accurate data retrieval.
- Authored the OpenAPI specification, independently defining and documenting endpoints.
- Improved the speed of a DNS Configuration generation restful API call by 25x via algorithmic improvements.

Help Desk Consultant   *February 2023 - Present*

- Provided comprehensive technical support for CAE, troubleshooting hardware, software, and network issues.
- Monitored systems and resolved critical incidents, including handling a total power outage.

Bethel Lutheran Church   **Madison, WI**

Assistant Sound Engineer   *May 2023 - December 2024*

- Setup and operate audio equipment for the band during weekly church services, ensuring high-quality sound for congregants, broadcast to WKOW 27, and YouTube.

Projects

WUD Games Database

- Led the end-to-end design and development of a full-stack website, utilizing Spring Boot for the backend and React.js for the frontend, to implement a comprehensive inventory management system for organizing games. This included real-time tracking of rental availability from WUD Games, resulting in significantly enhanced operational efficiency and resource accessibility.
- Live Version: http://wudgames.minecraft.best:8000/ Github: https://github.com/john-sp/wudWebsite

Set TSP Solver

- Developed a Set TSP (Traveling Salesperson Problem) solver using Python and GAMS to determine the optimal flight path for a private plane visiting all 48 contiguous U.S states.
- The initial solution analyzed 200 airports, yielding a solution in 14 hours.

Telescope Management Software

- Developed custom Python software to manage the telescope and data pipeline, automating data acquisition, sorting, and initial processing using NINA and SiriL APIs/CLI

Activities

Associate Director, Wisconsin Union's Directory Games Committee (2024-2025)

Club Officer, UW Madison's Hoofer's Outdoors-Scuba Club (2022-2024)

Observing Station Leader, Astronomy Club at UW Madison (2022-2024)

Hobbies

3D Printing   Astrophotography (Deep Space)

Chess   Scuba Diving (PADI AOWD Certified)