davidszymulewski@gmail.com
Personal website
630 765 4845

David Szymulewski

EDUCATION

Master of Science in Computer Science
University of Southern California · May 2023 · 3.8 GPA

Bachelor of Science in Astrophysics, Mathematics and Physics | Senior Thesis
University of Wisconsin-Madison · May 2021 · 3.83 GPA

SKILLS

Languages: C#, C, C++, HTML, CSS, JavaScript, TypeScript, Python, SQL
Tools/Frameworks: AJAX, Angular, Bootstrap, Express.js, Flask, Git, MySQL, Node.js, REST API
DevOps: Agile Methodology, Confluence, CI/CD, Jenkins, Jira

EXPERIENCE

Site Reliability Engineer Intern, Everbridge — June 2022 - August 2022
- Monitored key product statistics by writing SQL scripts to interface with Django and MySQL databases, tracking areas of improvement and collaborating across Agile teams to boost user retention by 8%.
- Provisioned Datadog monitoring metrics with SQL queries to track service opt-in failures, alerting the development team to potential bugs and reducing failure rate by 20%.

Research Assistant, University of Wisconsin-Madison — June 2018 - December 2021
- Designed a Python code framework to automate stellar-evolution simulations and organization of outputted data on remote servers, improving productivity by as much as 100% with no loss in accuracy.
- Authored a senior thesis while leveraging Python as a data science tool to create figures and tables, earning the Thesis of Distinction for innovative data processing and presentation.
- Adapted stellar-evolution code to test hypotheses on the formation of blue-lurker stars, discovering one explanation for their existence and earning the Award for Excellence in Astrophysics.
- Mentored two student researchers and wrote a training manual to reduce the learning curve of future students.
- Conducted statistical analyses in MATLAB to detect and address statistically significant differences in data processing performed by different team members, reducing variance by up to 20%.

PROJECTS

Events Search Web Application and iOS App — January 2023 - May 2023
- Designed three iterations of an events-search application employing various front- and back-end technologies hosted on AWS Elastic Beanstalk, that allows users to find, favorite and share concerts and other events.
- Developed separate front-ends using HTML/CSS & JavaScript; Angular featuring Bootstrap classes; and Swift.
- Wrote respective back-ends using Python & Flask; and JavaScript, Node.js & Express.js.
- Enhanced application responsiveness by employing AJAX techniques to communicate with RESTful back-end servers and Ticketmaster, Spotify & Google APIs.
- Portfolio links: Version 1 (HTML/CSS, JavaScript), Version 2 (Angular) and Version 3 (iOS).

Unity3D Video Game | Portfolio Link — January 2023 - May 2023
- Captained a five-person team to program gameplay, physics and UI in C# to create an immersive survival horror video game, achieving an 86% positive user rating and earning the Best Game award in CSCI 526.

Weenix Kernel Project — August 2022 - December 2022
- Programmed the kernel of a UNIX-based operating system in C, including process, thread and kernel memory management; a thread scheduler; a virtual file system; and virtual memory.
- Adopted an Agile sprint workflow to boost work efficiency and complete the project 3 weeks ahead of schedule.

Socket Programming Project — October 2021 - December 2021
- Implemented back-end servers in C++ to store social media user data and communicate via UDP with a main server that handles front-end requests, using optimal data structures and OOP practices to reduce data transfer latency by 25%.
- Wrote code that enables the main server to communicate with client-facing programs via TCP to suggest friend recommendations based on geographical proximity and mutual interests.