

Nathaniel Lee

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 LinkedIn  Portfolio Website

WORK EXPERIENCE

General Motors

June 2022 – Sep 2024

Software Developer / Systems Engineer

Warren, MI

- Engineered a full-stack Python/Django automation framework (SAF) with REST API endpoints to replace manual storage provisioning, cutting request turnaround time by 60% and eliminating hundreds of annual labor hours.
- Administered global UNIX-based NAS infrastructure hosting petabytes of data, ensuring high availability and data integrity for mission-critical operations including GM Defense.
- Deployed and maintained containerized applications using Docker and Kubernetes within Azure DevOps CI/CD pipelines, enhancing system scalability and fault tolerance.
- Refactored legacy code and debugged internal full-stack tools to resolve metadata corruption issues, ensuring accurate data visualization for storage engineers.
- Developed automated Power BI dashboards and Python batch scripts to visualize infrastructure analytics, driving executive decision-making regarding hardware lifecycles.
- Orchestrated hardware migrations and security patching across legacy systems, collaborating with vendors to decommission obsolete hardware and improve infrastructure efficiency by 20%.
- Led the team in technical troubleshooting for application, server, and network issues, consistently resolving high-priority tickets to maintain strict uptime targets in a high-stakes environment.
- Streamlined global IT workflows by identifying operational bottlenecks and championing automation strategies that reduced manual data entry and human error.

Ohio State University Risk and Emergency Management

Oct 2021 – April 2022

Access Control Assistant

Columbus, OH

- Managed campus-wide access control systems by diagnosing hardware failures and writing custom batch scripts to automate maintenance logging and reporting for university facilities.

Ohio State University Center for Electron Microscopy and Analysis

April 2021 – Aug 2021

Research Assistant

Columbus, OH

- Accelerated materials characterization research by implementing 3D reconstruction algorithms in CryoSPARC, reducing sample processing time from days to hours through optimized image analysis.

EDUCATION

University of Illinois Urbana-Champaign / University of Texas at Austin

Dec, 2027

MS, Computer Science

Champaign, IL / Austin, TX

- 3.7 GPA

Ohio State University

May, 2022

BS, Computer Science and Engineering

Columbus, OH

- Dean's List; 3.41 GPA

PROJECTS

Minecraft Forge Open-Source Collaboration and Development

- Collaborated on open-source Java development using Spring Boot and the Forge API, implementing core gameplay features and resolving critical bugs to enhance system stability and performance for the modding community.

Quality of Wine Prediction Models

- Architected predictive neural networks (CNNs, RNNs) in Python using TensorFlow and Keras to analyze complex meteorological datasets, successfully correlating regional weather patterns with wine quality metrics.

Spotify Playlist Recommender Web Application

- Engineered a full-stack chatbot application integrating Amazon Lex, Django, and React, utilizing OAuth 2.0 for secure authentication to generate personalized Spotify API playlists based on user sentiment analysis.

SKILLS

Java, Python, C, C++, C#, Ruby, MATLAB, R, SQL, JavaScript, HTML, CSS, PyTorch, TensorFlow, Spring Boot, Django, Kotlin, React, Angular, Bootstrap, jQuery, PostgreSQL, SQLite, MongoDB, Node.js, Git, Docker, Azure DevOps CI/CD, Linux/UNIX, Batch/Shell Scripting