

# Seth DeWhitt

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## EDUCATION

### Purdue University

West Lafayette, IN

*Bachelor of Science in Computer Science, Software Engineering concentration*

*Aug. 2023 – May 2027*

**Relevant Coursework:** Data Structures, Analysis of Algorithms, Discrete Mathematics, Systems Programming, Computer Architecture, C Programming, Software Testing, Object-Oriented Programming, Linear Algebra

**Activities:** Purdue Jazz Education Network (President), Purdue Jazz Band (Lead Tenor Sax.)

**Awards:** Elmhurst University Jazz Festival Outstanding Soloist (2x), Dean's List

## EXPERIENCE

### Technical Project Manager & Teaching Assistant

Aug. 2025 – Present

*The Data Mine, Purdue University*

*West Lafayette, IN*

- Directing a team of 11 students in collaboration with the Practical AI Podcast (PAI) and Prediction Guard
- Managing implementation of a RAG chatbot with vector search to link responses to episode transcripts/timestamps
- Leading design of full-stack podcast generation app using user-uploads and voice clone models trained on PAI hosts
- Planning/Leading biweekly Agile sprints, coordinating tasks and progress reviews across a 50k+ line codebase

### Software Engineer Intern

June 2025 – Aug. 2025

*Chewy*

*Bellevue, WA*

- Developed service for launching JupyterLab sessions loaded with custom tooling and configurable compute specs, extending an internal web app using **React**, **TypeScript**, **Python**, **FastAPI**, **Docker**, and Okta SSO auth
- Streamlined workflows for 15 data scientists via on-demand **AWS ECS** compute infrastructure using **boto3**
- Decreased admin overhead by **>50%** and enhanced service scalability using **AWS Fargate**
- Enhanced user experience by implementing a paginated and searchable JupyterLab session management table
- Enabled secure persistent file storage across JupyterLab sessions by mounting **AWS EFS** to ECS tasks
- Deployed **AWS Lambda** to trigger backend cleaning via **AWS Kinesis**, using **psycopg2**, boto3, and EFS mounts to prune ECS tasks, clean **PostgreSQL** records, and maintain EFS file retention, lowering AWS expenses by **25%**
- Built application and AWS Infrastructure as Code (IaC) using **Terraform** and a **Jenkins** CI/CD pipeline

### Undergraduate Data Science Researcher

Aug. 2023 – May 2025

*The Data Mine, Purdue University*

*West Lafayette, IN*

- Collaborated with Bayer Crop Sciences to model future impact of climate change on corn yields, helping Bayer farming clients plan future adaptation strategies (2023-2024)
- Optimized a **LightGBM** model for large-scale genomic datasets, improving Pearson correlation and reducing RMSE by **24%**, through hyperparameter tuning and cross-validation
- Integrated machine learning models with GxExM to predict product placement for Syngenta (2024-2025)
- Implemented data preprocessing pipelines for quality control, including filtering genetic markers and normalizing phenotypic outliers using mixed linear models

## PROJECTS

### MyPort | *TypeScript, React, Next.js, OpenAI, LangChain, Supabase* | [GitHub](#) | [Link](#)

Oct. 2025

- Pioneered RAG chatbot to answer portfolio questions via Supabase, OpenAI embeddings, and LangChain retrievers
- Built automated ingestion pipeline to chunk portfolio data and autosync, supporting idempotent updates/backfills

### Evallm | *TypeScript, React, Next.js, Vercel, OAuth2, MongoDB* | [GitHub](#) | [Link](#)

July 2025 – Aug. 2025

- Developed full-stack app deployed on Vercel using Groq API to evaluate user-prompted Meta LLM responses
- Implemented analytics dashboard with prompt analysis, LLM stats, and experiment tracking for model comparison
- Built responsive UI with real-time insights and Google authentication to enhance user experience

### UNIX-like Shell | *C++, Lex/Yacc, Signals, I/O redirection*

Feb. 2025 – Apr. 2025

- Developed a feature-rich command-line shell in C++ using Lex/Yacc for advanced parsing and execution.
- Implemented I/O redirection, pipes, subshells, signal handling (Ctrl-C, zombie elimination), and built-in commands
- Enhanced user experience with environment variable expansion, command history, and other interactive features

## TECHNICAL SKILLS

**Languages:** Python, JavaScript/TypeScript, Java, C#, C/C++, SQL, HTML/CSS, R

**Cloud/Data:** AWS, boto3, psycopg2, PostgreSQL, NoSQL, Pandas, Flyway, Supabase

**Dev Tools:** Git, FastAPI, React, Node.js, Next.js, Vite, Tailwind, Docker, Pinecone, MongoDB, Terraform, Jenkins