

# Nathan D. Englert

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## EDUCATION

**Penn State Behrend**, Erie, PA

**Expected in May 2026**

**Bachelor of Science in Computer Science**

GPA: 3.85

- Lambda Sigma Honor Society
- Honors and Dean's List (Fall 2022, 2023, 2024, 2025)

## RELEVANT EXPERIENCE

**Penn State Behrend, Machine Learning Researcher**, Erie, PA

**Jan 2026 – Current**

- Constructing a multi-layered ingestion pipeline to automate collection and structuring of fragmented academic content for the School of Engineering
- Modeling a RAG-based UI utilizing the LionPath API to provide citation grounded model responses
- Leveraging ICDS ROAR Collab HPC resources and Slurm job scheduler to facilitate intensive computations for LLM fine-tuning and inference
- Optimizing performance using rule-based safeguards and escalation protocols to triage inquiries and optimize system reliability, targeting over 80% retrieval accuracy

## RELEVANT PROJECTS

**Local Deployment and Domain Adaptation of a Specialized LLM, gLLM**

**Sept 2025 – Current**

- Engineering a RAG pipeline using LangChain and Milvus vector database to ground model responses in a specific domain corpus
- Implementing Parameter-Efficient Fine-Tuning (PEFT) using LoRA and Unsloth to adapt LLMs to specialized domains
- Architecting a containerized deployment utilizing vLLM for high-performance inference, integrated with a FastAPI backend and a React/Chainlit frontend for a seamless user experience
- Specifying an evaluation framework using DeepEval and "LLM-as-a-judge" methodologies to systematically measure model faithfulness, toxicity, and reasoning capabilities

**Tech Relevancy News Aggregator Application, BitBop**

**Sept 2025 – Dec 2025**

- Developed an ASP.NET Core Web API using a service-oriented architecture with Entity Framework Core and PostgreSQL for scalable data management
- Established user authorization and role-based access control (RBAC) with JWT Tokens to ensure secure RESTful API endpoints
- Designed an intuitive, accessible UI/UX using React and Material UI with dynamic data rendering
- Integrated the Google Gemini API and NewsAPI for content aggregation and summarization features

## CUSTOMER SERVICE EXPERIENCE

**Waldameer Park & Water World, Supervisor**, Erie, PA

**June 2021 – Sept 2025**

- Resolved customer complaints regarding park enjoyment and food service efficiently
- Managed high-volume food service operations serving upwards of 5,000 customers daily
- Demonstrated correct procedures to new employees such as sanitation and customer service

## TECHNICAL SKILLS

Languages: Python, C++, C#, C, Java, Assembly, JavaScript, HTML, CSS, Typescript

Frameworks/Database: React, .NET, Spring Boot, SQL Server, MySQL, PostgreSQL

Technical Tools: Git, VSCode, Figma, Conda, Linux, PowerShell, Azure, RESTful APIs, LangChain, Pandas

Productivity Tools: Microsoft 365, Adobe Illustrator, Photoshop, Agile