Oliver Perrin

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EDUCATION

Appalachian State University Boone, NC
B.S. Computer Science, Minor in Mathematics, Data Science Certificate *Expected May 2026*
- Relevant Coursework: Applied Machine Learning, Data Structures & Algorithms, Database, Numerical Methods
- Projects: Mathematical language interpreter (Haskell), Y86 pipelined CPU simulator (C/C++), 2D game engine (Java)
- Team Captain, University Esports Club

EXPERIENCE

Data & Systems Engineering Intern June 2023 – August 2024
Triaxis Power Consulting LLC *Charlotte, NC*
- Deployed IoT monitoring system with Raspberry Pi 4, thermocouples, and potentiometers to track pipe temperature and thermal expansion in fossil fuel power plants for predictive maintenance
- Built Python pipeline to process and visualize sensor telemetry with automated cloud sync and remote access via PiTunnel for continuous monitoring across multiple plant sites
- Engineered NAS-to-SharePoint integration with automated folder sync, reducing manual transfers by 80% and centralizing 500GB+ of engineering data

Data Science Participant May 2025 – July 2025
The Global Career Accelerator *Remote*
- Analyzed production datasets from Intel, Lyft, OpenAI, Spotify, and The Recording Academy across international teams of 6+, delivering data-driven business insights
- Applied SQL for complex queries on multi-million row datasets and Python (Pandas, Plotly) for statistical analysis and interactive visualizations

PROJECTS

Multi-Task Transformer for Document Analysis | *PyTorch, Transformers, Python* In Progress
- Building custom Transformer for abstractive summarization, emotion classification, and topic clustering on literary and article datasets (Project Gutenberg, news corpora)
- Implementing encoder-decoder architecture with attention mechanisms and multi-label classification for emotion detection with user-defined compression levels
- Developing interactive interface with attention weight visualization for model interpretability

PlayAxis: Full-Stack Events & Sports Platform | *React.js, FastAPI, PostgreSQL, Docker* Sep 2025
- Built platform aggregating real-time schedules, scores, and data for events and sports by integrating 3+ external APIs with FastAPI backend (Pydantic validation) and PostgreSQL database
- Containerized with Docker; automated CI/CD via Netlify (frontend) and Koyeb (backend), reducing deployment time by 60%. Live at: playaxis.netlify.app | github.com/oliverperrin

Movie Recommendation System | *TensorFlow, Scikit-learn, NumPy, Python* Oct 2025
- Developed content-based filtering engine using TF-IDF vectorization and cosine similarity to generate personalized recommendations from 10,000+ movie entries

TECHNICAL SKILLS

Languages: Python, C/C++, Java, SQL, JavaScript, Haskell, Assembly, Maple
ML & Data: PyTorch, Transformers, TensorFlow, Scikit-learn, Pandas, NumPy, Matplotlib, Plotly
Systems & Web: FastAPI, React.js, PostgreSQL, Node.js, Docker, Git, Linux, REST APIs, CI/CD, TailwindCSS

CERTIFICATIONS

Machine Learning Specialization – Stanford University & DeepLearning.AI
AI Professional Skills – OpenAI & The Global Career Accelerator
Python & Data – The Recording Academy & The Global Career Accelerator
Querying Data – Intel Corporation & The Global Career Accelerator