Carter Tate

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Education

Cornell University - Class of 2027

- B.S. Computer Science - Data Science Minor - College of Engineering (3.7 GPA)
- Relevant Coursework: Machine Learning, AI Agents, Operating Systems, Natural Language Processing, Object Oriented Programming & Data Structures, Functional Programming, Discrete Structures, Linear Algebra

Technical Skills

- Skills: Python, C, Java, C++, OCaml, JavaScript, Assembly, GitHub, SQL, NoSQL, AWS, Agile, LLMs, Sci-kit, TensorFlow, REST, Pytorch, Pandas, NumPy, Docker, CI/CD, ReactJS, Unity, Swing, Excel

Professional Experience

AI Developer - Zekelman Industries; June 2026 - August 2026

- Developed and tested an AI Data Analyst Agent and Dashboard leveraging Palantir's Foundry and AIP software to provide sales specialists with highly customized information about their accounts
- Designed and implemented a daily automated AI Agentic workflow to ingest, transform, display and interpret procurement data to drive better decisions and support procurement data visibility

Technical Intern - International Game Technology; June 2025 - August 2025

- Built and trained Sci-kit DNN, XGBoost, and Random Forest (RF) models for slot machine behavior prediction informing dynamic on device game math strategies
- Engineered extensive custom ML predictive features, analyzed SHAP values to identify drivers of longer sessions and increasing bets, and produced confusion matrices to evaluate model predictive accuracy

Data Analyst - Nugget Casinos; June 2025 - August 2025

- Trained RF, LightGBM, and elastic-net models to predict "coin-in" performance achieving R^2 of 93.42%
- Created an end-to-end automation pipeline in Python to clean, feature-engineer, and model casino slot-machine meter and financial transaction data

Projects

TheoCorpus Full Stack Retrieval Application

- Built an advanced semantic search engine with complex domain-specialized retrieval strategies for a 54K-document theological corpus, engineering an offline LLM data pipeline that enriches each document chunk with labeled theological facets and keyword-rich annotations
- Hybrid retrieval combines dense vectors (passage, facet, and HyDE-generated query embeddings) and sparse BM25 (passage content and annotations), fused via weighted RRF and re-ranked by a two-stage (cross-encoder and LLM) re-ranker system to surface high-precision results and encourage theological exploration

Huffman Compression Program

- Built a Huffman file compression system in C by implementing a priority stack and queue, building and traversing a Huffman tree, outputting data in precise format and encoding characters into variable length bit patterns based on natural frequency to achieve efficient lossless compression

Optimized Matrix Multiplication for Performance

- Developed and tested multiple algorithms to improve matrix multiplication performance in C by leveraging cache behavior (spatial locality, memory layout, access stride, etc.)

Extracurricular Activities

Cornell University Wrestler; 2022 - Present

- Collaborated in a high-performance team environment, managing 20+ weekly training hours
- Team 2nd Place NCAA National Tournament 2024, Team 3rd Place NCAA National Tournament 2023, Team EIWA/Ivy League Champions 2023-2025,
- Improved teamwork, discipline, hard work, and perseverance while competing as a NCAA Division I Wrestler

Big Red Leaders 2 Leaders Program; 2024 - Present

- Selected by wrestling coaches for a leadership program led by a sports psychologist, applying leadership principles to motivate teammates, resolve conflicts, and improve team performance