

Tyler Dickson

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EDUCATION

Georgia Institute of Technology — <i>Masters in Computer Science</i>	2025
Pikes Peak State College — <i>Associates in Mathematics</i>	2024
United States Military Academy — <i>Bachelors in Economics</i>	2014

CERTIFICATIONS

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| • TS/SCI Clearance | • NVIDIA Building AI-Based Cybersecurity Pipelines |
| • NVIDIA Fundamentals of Deep Learning (FDL) | • NVIDIA Generative AI with Diffusion Models |
| • NVIDIA AI for Anomaly Detection (ANOM) | |

PROGRAMMING SKILLS

Java | Python | C | C++ | JavaScript | Maven | GraalVM | FXML | CSS | HTML5 | JavaFx | SQLite | Linux | Gluon | AWS | Git | Android | Docker | PyTorch | TensorFlow | NumPy | ML/AI

AI/ML EXPERIENCE

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- Developed transformer-based NLP models for political text analysis, including a BART LoRA fine-tuned model for populism detection & summarization (10k press releases, 12 countries) that classifies populist rhetoric and explains its reasoning, and a T5 summarization model fine-tuned for abstractive summarization of political discourse
 - Developed supervised learning models (SVM, XGBoost, Neural Networks, and KNN) to predict political donation patterns influenced by socio-economic factors and societal crises such as school shootings, achieving high prediction accuracy
 - Implemented supervised techniques to compare Randomized Hill Climbing, Simulated Annealing, and Genetic Algorithms for optimizing discrete problems (Knapsack, TSP) and neural network weights, demonstrating the impact of algorithm selection on escaping local optima and performance precision
 - Implemented unsupervised clustering techniques (EM, K-means) combined with dimensionality reduction (PCA, RP, ICA) to analyze socio-political datasets, optimizing feature selection and cluster separability for enhanced data insights
 - Designed and implemented custom AI agents capable of defeating adversaries in strategic games by leveraging advanced search algorithms (BFS, DFS, multi-directional A*), and developed Random Forest and Decision Tree models without standard library use
 - Developed advanced search algorithms, including BFS, DFS, and multi-directional A* algorithms, to optimize pathfinding and decision-making tasks
 - Architected a full-stack algorithmic stock trading system, integrating supervised learning (XGBoost), reinforcement learning (Q-Learner), and technical indicators into a cohesive pipeline; optimized Sharpe ratio through dynamic feature engineering, state discretization, and strategy evaluation across simulated market conditions

PROFESSIONAL EXPERIENCE

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- Georgia Institute of Technology & Pikes Peak State College** 2023 – Present
- *Web Application Development*: Leveraged Java, JavaScript, and AWS frameworks to design and implement a file-sharing web application
 - *Application Development*: Developed a desktop application tailored to address operational inefficiencies faced by U.S. Army service members; application now available in Linux Stores
 - *Education and Military Service*: Simultaneously pursued a master's degree in Computer Science and earned an associate's degree in Mathematics while actively serving in the U.S. Army
- U.S. Army Officer — Operations Manager — Special Forces Commander** 2021 – 2023
- Hand-selected to command a 12-Soldier Special Forces Operational Detachment - Alpha (SFOD-A)
 - Served as Cross Functional Team Commander for Task Group Balkans, providing command/control and synchronizing operations between two adjacent Special Operations Command Teams
 - Collaborated with the U.S. State Department and government agencies on matters of national security
- U.S. Army Officer — Operations Manager — Special Forces Executive Officer** 2020 – 2021
- Used Palantir Gotham to coordinate all IRS platforms and ground troops in Northern Afghanistan
 - Served as the SME for HF and SATCOM between aircraft and ground forces in Northern Afghanistan
 - Chosen as second-in-command of one of four Afghan Regional Targeting Teams; processed/approved kinetic strikes
- U.S. Army Officer — Operations Manager — Executive Officer** 2014 – 2018
- Led a Mechanized Infantry Platoon; Accountable for over \$40M worth of vehicles and equipment