Cael T. N. Yasutake

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EDUCATION

Columbia University   **New York, New York**
B.S. in Computer Science   *Expected Graduation, May 2025*
- **Concentrations:** Intelligent Systems
- **Related Coursework:** Data Structures & Algorithms, Databases, Parallel Optimization, Machine Learning, Artificial Intelligence, Natural Language Processing, Object-Oriented Programming, Probability & Statistics

EXPERIENCE

General Dynamics Information Technology   **Remote**
Software Development Engineering Associate   *June 2024 – Present*
- Creating company-wide informational hub leveraging Microsoft Power Platforms and Tableau Dashboards to automate and consolidate risk, issue, and opportunity assessments for over 10,000 employees.
- Fine-tuning and developing a large language model (LLM) utilizing Google Gemini API for a customer token request program that will assist service representatives.

Columbia University   **New York, New York**
Undergraduate Researcher   *Jan 2024 – Present*
- Facilitating a research project optimizing inverse kinematics algorithms for robotic manipulators by leveraging CUDA GPU acceleration looking to be published at the International Conference on Robotics and Automation (ICRA) 2025.
- Developing a framework that reduces computation time and improves accuracy of the end-effector for motion-sensitive robotic manipulators.

General Dynamics Information Technology   **Remote**
Artificial Intelligence & Machine Learning Associate   *Jun 2023 – Aug 2023*
- Implemented multivariate time series models utilizing Python and its Statsmodels statistical computation library to improve beneficiary forecasting by 146%.
- Performed feature engineering and data augmentation with the Pandas data analysis and manipulation library to improve data quality for SARIMA and SARIMAX models.

Columbia University   **Remote**
Artificial Intelligence Safety Fellow   *Jun 2022 – Sep 2022*
- Led a research project evaluating and benchmarking the progress of model-based reinforcement learning algorithms towards Artificial General Intelligence (AGI).
- Developed a Deep Convolutional Neural Network (DCNN) alongside the Deep Q-Learning algorithm in Tensorflow to play the Atari Breakout game and evaluate the algorithm's generalization capabilities.

PROJECTS

Evolution of Morphology in Soft-Robotics   **New York, New York**
Lead Developer   *Sep 2023 – Present*
- Evolved soft-robots to move using Genetic Programming and graph-tree structures leading to synthetic evolution and innovative locomotion techniques.
- Developed a custom physics simulator using C++ to simulate soft-body motion and rigid-body dynamics.

Artificial Intelligence Learns to Play Capture the Flag   **Lahaina, Hawaii**
Lead Developer   *May 2023 – Aug 2023*
- Trained and developed AI agents in a custom multi-agent Unity environment using the Proximal Policy Optimization (PPO) reinforcement learning algorithm to play the team game "Capture the Flag".

Certifications

Machine Learning and Deep Learning Bootcamp in Python (2023)   **Remote**
Udemy   *Jun 2023 – Aug 2023*

SKILLS

Programming: Python, C++, C, Java, CUDA, PyTorch, Tensorflow, Sciki-learn, C#, SQL
Tools: PyCharm, Visual Studio, Git, Jupyter Notebooks, Dataspell, Unity, Datagrip, MongoDB, Neo4j, Agile