# Giselle McPhilliamy

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## Education

**Georgia Institute of Technology – College of Computing | Atlanta, GA**

M.S. in Computer Science: Machine Learning concentration — 4.00 GPA | Expected Graduation: May 2026

- **Machine Learning Graduate Teaching Assistant** - Quiz Development & Ed Discussion Team
- Key Courses: Deep Learning, Machine Learning, Computer Vision, Deep Reinforcement Learning, Big Data Sys & Analytics

B.S. in Computer Science | Minor in Biology | Honors Program — 3.94 GPA | August 2021 - May 2025

- Concentration: Artificial Intelligence & Information Internetworks
- Key Courses: Artificial Intelligence, Analysis of Algorithms, Data Structures & Algos, Computer Architecture, Linear Algebra

**Georgia Tech Summer Study Abroad** - Universitat Politècnica De Catalunya | Barcelona, Spain — May - August 2023

## Skills

**Programming Languages**: Python, Java, C, Javascript, CSS, HTML, MATLAB
**Frameworks & Tools**: PyTorch, TensorFlow, ONNX, TensorRT, NumPy, Pandas, Scikit-Learn, MatPlotLib, Seaborn, WandB, Oracle Cloud GPUs, Flask, Django, Git, Docker, React, SQL, NVIDIA Jetson (Orin Nano), Raspberry Pi, Linux, Arduino, GRBL, UGS, Agile
**Professional Organizations**: AI Safety Initiative @ GT, Alpha Gamma Delta Sorority, Common Good Georgia Tech, Run Club

## Work Experience

**Briteseed, LLC. | Machine Learning Engineering Intern** | Chicago, IL — *May – Aug 2025*

- Developed original CNN-based framework for hyperspectral imaging tissue classification, integrated spatial-spectral feature fusion, and multi-task learning to achieve >90% accuracy on classification; patent process initiated
- Engineered features from high-dimensional, noisy sensor data using de-noising filters, normalization, and jitter-based augmentation; performed extensive data cleaning to improve signal quality and model generalizability
- Deployed ONNX + TensorRT model to Jetson Orin Nano and interfaced with Raspberry Pi DAQ system for real-time inference
- Presented final framework to Senior Leadership Team, including CEO and outside patent counsel

**Skolnick Research Group | Undergraduate Research Assistant** | Atlanta, GA — *Nov 2024 – May 2025*

- Fine-tuned transformer models (DNABERT, TransVCOX, Nucleotide Transformer) on oral cancer genomic data to predict immune resistance, antigen-binding potential & survival outcome
- Discovered immune-resistance biomarkers and patterns using PCA, clustering, and supervised learning on oral cancer datasets

**F5 Networks | Software Engineering Intern, Rapid Development Team** | Seattle, WA — *May – Aug 2024*

- Designed a pluggable framework and corresponding UI to automate the bug triage and fixing process
- Developed plugins using heuristic-based analysis to recommend most effective fixes for bug tickets
- Constructed comprehensive tests leading to deployment of the framework in a successful and seamless launch
- Presented end-of-project deep dive to ~25 person Rapid Development Engineering team

**Briteseed, LLC. | Software and Hardware Engineering Intern** | Chicago, IL — *May – Aug 2022*

- Developed & deployed device for robotic assisted ex-vivo prototype testing, reduced test cycle time by over 30%
- Automated the trend analysis of medical device data via a MATLAB script, reducing data analysis time >90%
- Developed a baseline logistic regression model to verify data learnability; analyzed feature weights to inform model design

## Projects

**Textile Vision – CLIP-Conditioned Diffusion Model for Fashion Image Generation**

- Built a text-to-image generative model using CLIP embeddings and Stable Diffusion to generate high-res fashion images from natural language prompts; achieved Inception Score of 8.1 ± 1.1
- Implemented cross-attention layers, ran ablation studies on embeddings and data formats, and fine-tuned training with AdamW under memory constraints on A100 GPUs

**Software Application for Medical Emergencies (S.A.M.E)**

- Managed 6 people as team lead in the full-stack development of an app for Emory University's internal medicine program
- Constructed Firebase backend database configured with REST API for CRUD operations, following Agile methodology
- Implemented K-nearest neighbors algorithm to predict likelihood of potential diagnoses and tailor treatment plan

**Built and programmed CNC machine**

- Designed CNC machine and assembled hardware to achieve sub-mm precision in navigating 3-D space
- Built MATLAB GUI to control Python backend hosted on Raspberry Pi with Arduino board, CNC shields, and servo motors

## Leadership and Teaching Experience

President, former VP Finance| Cleanup Crew Georgia Tech – Atlanta, GA — *Aug 2023 – May 2025*
Academic Mathematics Coach| Peak Academic Coaching – Atlanta, GA — *Sept 2023 – May 2025*