TIM PHAN

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EDUCATION

GEORGIA INSTITUTE OF TECHNOLOGY **Atlanta, Georgia**
Master of Science in Computational Science and Engineering *May 2026*
Master of Science in Quantitative and Computational Finance *December 2026*
- GPA: 3.9
- CSE Coursework: Deep Learning, Natural Language Processing, Computational Data Analysis, Algorithms, Modeling & Simulation, High Performance Computing, Data Vis Principles, Data & Vis Analytics
- QCF Coursework: Financial Optimization, Investments, AI4Finance, Numerical Methods in Finance, Fixed Income Securities, Derivative Securities

GEORGIA INSTITUTE OF TECHNOLOGY **Atlanta, Georgia**
Bachelor of Science in Business Administration (Information Technology Management) *December 2024*
- GPA: 4.0
- Coursework: Object-Oriented Programming, Databases, Analytics, Python for Data Science, Data Prep & Visualization

EXPERIENCE

AI @ GEORGIA TECH BYTEFIGHT **Atlanta, Georgia**
Algorithm Developer *April 2025 – May 2025*
- Developed a competitive Python Snake PvP bot for Georgia Tech ByteFight, placing Top 8 with ~60% win rate
- Implemented real-time decision and pathfinding algorithms (BFS tail-reachability, portal-aware A*) reducing self-collisions by 92%, extending survival from ~300 to 2000 turns, and computing optimal moves in <30 ms.

SMURFIT WESTROCK **Atlanta, Georgia**
IT&D Intern *May 2024 – August 2024*
- Gathered requirements, assessed functionalities, and provided feedback for the MachONE Foundation project to ensure minimal disruption to business operations with rollout of new system
- Assisted in the development and maintenance of the Digital Transformation Office SharePoint site for the Smurfit Westrock intranet, enhancing accessibility and usability for stakeholders

PROJECTS

AGENTIC SIMULATION FOR EXPLORING EMERGENT BEHAVIORS **Atlanta, Georgia**
Team Member *August 2025 – December 2025*
- Developed a Python-based multi-agent LLM simulation framework modeling belief formation and coordination under uncertainty, extending a Werewolf baseline into a personality-driven Shared Fictions environment
- Evaluated emergent agent behavior via transcript analysis, identifying systematic coordination patterns, utilitarian bias, and schema limitations in LLM-based multi-agent systems

MULTI-MODAL DEEP LEARNING FOR NON-INVASIVE CARDIAC OUTPUT **Atlanta, Georgia**
Team Member *May 2025 – August 2025*
- Explored non-invasive SV estimation from ECG, SCG, and PPG using LOVO cross-validation on six porcine subjects
- Benchmarked raw-signal deep models (CNN-LSTM, fusion Transformers) vs. feature-based baselines (DeepConvLSTM) using systematic hyperparameter search, achieving RMSE 9.3-13.1 mL, MAPE 15-23%, R ≤ 0.71.

CADUCEO **Atlanta, Georgia**
Team Member (Hacklytics 2025) *February 2025*
- Built a multimodal healthcare cost-analysis chatbot using OCR, NLP, and ML to detect and explain medical bill overcharges via a conversational interface.
- Engineered an end-to-end AI pipeline (Azure AI Vision OCR, 4-bit LLaMA 3.2B, DBSCAN, MongoDB/Snowflake), achieving >0.90 Silhouette score for anomaly detection; 2nd Place, Assurant Challenge (Multimodal Agentic AI).

SKILLS

Languages: Python, R, SQL
Machine Learning: scikit-learn, TensorFlow, PyTorch, Hugging Face, Classical ML, Deep Learning, NLP, Agentic AI
Data Science: NumPy, Pandas, Matplotlib, Seaborn, Tableau, Excel
MLOps & Tools: Git, VS Code, Jupyter Notebook, Google Colab, Conda, MongoDB, Snowflake, Azure, Slurm
Organizations: Data Science@GT, AI@GT, Trading Club, Barbell Club
Interests: Agentic AI**,** Powerlifting, Barbeque