

XIAODONG AN

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EDUCATION

Ph.D. in Physics , Georgia Institute of Technology	Expected Aug 2026
Relevant Coursework: Computational Physics, Nonlinear Dynamics	
M.S. in Computational Science and Engineering , Georgia Institute of Technology	Expected Dec 2026
Relevant Coursework: Machine Learning, Algorithms, Computational Data Analysis	
B.S. in Physics , The Hong Kong Polytechnic University	May 2022

SKILLS

Technical Skills	FastAPI, ReactJS, Node.js, Docker, Git, PyTorch, Scikit-learn, Pandas, Tableau, HPC
Programming Languages	Python, JavaScript, TypeScript, MATLAB, SQL, HTML/CSS

EXPERIENCE

Machine Learning Engineer Scam AI	Dec 2024 – Aug 2025 <i>Berkeley, CA</i>
<ul style="list-style-type: none">Led a team of 5 to design and automate large-scale adversarial data generation pipelines by orchestrating multiple face-swap models with distributed PyTorch training and automated dataset curation.Deployed production-grade FastAPI microservices with Docker, optimized GPU inference latency/throughput and mixed-precision acceleration for real-time face-swapping and detection.Partnered with cross-functional teams to fine-tune detection models using hard negative mining, contrastive loss, and Scikit-learn evaluation pipelines, boosting production detection accuracy from 80% to 97%.	
Full Stack Developer – CHAOS Lab Platform Georgia Tech	Jan 2025 – Mar 2025 <i>Atlanta, GA</i>
<ul style="list-style-type: none">Architected and launched the official CHAOS Lab platform (live site) using React and Node.js, modernizing research dissemination and lab communication.Applied A/B-style testing across multiple prototypes to optimize faculty/student engagement and UI flows, improving visit duration metrics by 25%.	

PROJECTS

- Agentic ArXiv Paper Searcher (2025)** Developed an autonomous research assistant using **OpenAI LLMs**, **LangChain**, and **arXiv API**, integrating multi-agent orchestration, retrieval-augmented generation (RAG), tool calling, and modular workflows for automated literature analysis.
- Chrome Extension for Real-Time Fake Face Detection in Google Meet** — Developed a lightweight browser extension integrated with a **FastAPI** ML backend, deployed via **Docker**, achieving 90%+ precision in real-time deepfake detection and overlaying results in live meetings.
- IMC Prosperity World Trade Competition (2024)** — Led a team of 5, ranking top 3% globally (out of 10,000+ participants) and top 0.05% in manual trading. Designed algorithmic trading strategies in Python and optimized execution under simulated real-market constraints.

PUBLICATIONS

Gautham Gopinath, Xiaodong An, et al. (2022). [Diffusion-Coefficient Power Laws and Defect-Driven Glassy Dynamics in Swap Acceleration](#). *Physical Review Letters*. DOI: 10.1103/PhysRevLett.129.168002

Xiaodong An, et al. (2025). [Quantifying The Complex Spatiotemporal Chaos of Cardiac Fibrillation in Ionic Models Across Parameter Regimes](#). *arXiv preprint*, arXiv:2508.14303