

Seoyoung (Amy) An

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Python, C++, C, Java | Numpy, Pandas, Matplotlib, Dash, Pytorch, TensorFlow | Jupyter Notebook, Git

EDUCATION

Ph.D. in Computer Science

Advisor: Catherine D. Schuman

Concurrent Master of Science in Computer Science

University of Tennessee, Knoxville

August 2024 – TBD

August 2024 – December 2025

GPA: 4.0/4.0

Bachelor of Computer Science

Minor in Machine Learning and Cybersecurity

Chancellor's Honors Program

University of Tennessee, Knoxville

August 2020 – May 2024

GPA: 3.98/4.0

RESEARCH INTERESTS

Neuromorphic computing, AI/ML, Neural Network Analysis, Data Visualization/Analysis

WORK EXPERIENCE

Graduate Research Assistant in TENNLab

August 2024 – Present

- Member of the TENNLab advised by Catherine D. Schuman
- Researcher for QMEENC and LLM-Driven Neuromorphic Designs Discovery

Undergraduate Research Assistant in Global Computing Laboratory

August 2022 – May 2024

- Member of the Global Computing Laboratory advised by Catherine D. Schuman and Michela Taufer
- Researcher for A4NN

eNsecure Intern

July 2022

- Capture network packets and monitor network traffic to detect any malicious acts using Wireshark.

AFFILIATIONS

Systers: Women in EECS

August 2021 – Present

Secretary (August 2025-Present), Vice President (May 2023-May 2024),

Treasurer (August 2022- May 2023, June 2024-December 2024)

- Serve a volunteer organization dedicated to women in EECS at the University of Tennessee, Knoxville as an officer through hosting events (AI Panel, Mini Internship and Research Fair, and more) and managing finance and organizing website to recruit, retain, and mentor female and non-binary EECS students.

RESEARCH PROJECTS

QMEENC

June 2024 – Present

- Implement Spiking Neural Network model by plugging in the raw experimental data of quantum material and evaluate the impact of different decisions at the low-level on application performance.
- Parameterize different branching of current of driven circuit of disordered superconducting loops to explore the interactive energy landscape and trajectory of two coupled Josephson Junctions.

LLM-Driven Neuromorphic Designs Discovery

July 2025 – Present

- Develop an LLM-driven review to categorize existing work, analyze key metrics, and identify the most effective designs for energy-efficient, scalable neuromorphic systems.

Analytics for Neural Networks (A4NN) Research

August 2022 – May 2024

- Create a visual interactive analytics dashboard tool in Python that visualizes the network structures, identifies the common subsequences, and calculates the distance between networks for analysis as an undergraduate research assistant.
- Analyze neural network structures and validation accuracy generated by the Neural Architecture Search prediction engine using protein diffraction dataset.

Computer Science Education Teachers Needs Research

August 2021 – May 2022

- Conduct a survey to explore the diversity of computer science education in Tennessee and analyze data using R.

PUBLICATIONS

Patel, R., Tripathy, S., Sublett, Z., **An, S.**, & Patel, R. (2024). Using CSNNs to Perform Event-based Data Processing & Classification on ASL-DVS. arXiv preprint arXiv:2408.00611.

S. An, G. Channing, C. Schuman, and M. Taufer, "VINARCH: A Visual Analytics Interactive Tool for Neural Network Archaeology," *2023 IEEE International Conference on Cluster Computing Workshops (CLUSTER Workshops)*, Santa Fe, NM, USA, 2023, pp. 50-51.

PROJECTS

Spiking Neural Network Drone

October 2023 – May 2024

- Train, simulate, and test Crazyflie drone for autonomous flight using Spiking Neural Networks.

Wordle Solver

November 2023 – December 2023

- Create an interactive Wordle Solver with an average attempt of 3.87 using the Bayesian model.

RECOGNITIONS

Lynne and Robert Parker Graduate Computing Award Endowment

June 2025

- Awarded to top graduate students in the Department of Electrical Engineering and Computer Science.

Research Award of Merit

May 2024

- Award issued by Exhibition of Undergraduate Research and Creative Achievement (EURēCA)

IEEE CLUSTER Student Travel Awards

October 2023

- Award for students for travel assistance at the IEEE CLUSTER conference.

Jamie & Richard Thomas Endowment

August 2023

- Awarded to top students in the Department of Electrical Engineering and Computer Science.

Thomas D. Dunlap Scholarship

August 2020 - May 2024

- Awarded academic merit-based competitive four-year scholarship to students with high academic records.

UT Volunteer Scholarship

August 2020 - May 2024

- Four-year award to recognize students with an exemplary academic record.