

Education

Stevens Institute of Technology Ph.D. in <i>Computer Engineering</i>	Hoboken, NJ Expected: Dec 2028
University of Texas at Austin M.S. in <i>Computer Science (online)</i>	Expected: Dec 2026
Texas A&M University	College Station, TX Dec 2023
B.S. in <i>Computer Science</i> with minor in <i>Cybersecurity and Mathematics</i>	Cumulative GPA: 3.7/4.0

Skills

- Python (Proficient), C++ (Proficient), Lua, Java, JavaScript, TypeScript, HTML, SQL
- LangChain, HuggingFace, TensorFlow, PyTorch, MongoDB, React, Flask, DynamoDB, Docker, VS Code, Vim, Git, Linux, Ubuntu Server

Internship Experience

Amazon <i>Software Dev Engineer Intern</i> <i>Fire-TV Telemetry Team</i>	May 2022 - Aug. 2022
<ul style="list-style-type: none">Built a full-stack web portal to enable rest FireTV teams onboarding to the service involved with getting confidential on device log data, resulted in a 30% reduction in the overall process time and provided a universal platform for data collection and status tracking.Used React for the frontend, AWS’s DynamoDB for an intermediate DB, and API Gateway for backend integration (CRUD data)Designed and wrote up detailed documentation regarding intermediate/backend API endpoints & database schemas	
Splunk <i>Technical Marketing Intern – Security</i>	May 2021 - Aug. 2021
<ul style="list-style-type: none">Designed and built the ETL pipeline to import infosec vendor sample data from 200+ sources into a new globally distributed demos environment to improve the event and product marketing flexibility in use, providing cost-saving options on 60k annual demonstration across 3 regions with permission outside of isolation through unlocking data stuck within a static demonstrationExported sample data and Splunk Search Processing Language (SPL) code of dashboards to re-build corresponding demos on the cloud after generating a 1 billion row dataset in Python and connecting with Splunk Cloud by REST API for quicker result callingTransformed unstructured machine data, iterated utilization resulting in 75% run time improvement, and completed the 45-min ES demo presentation with another teammate	

Research Experience

Uncertainty Propagation in LLM Reasoning <i>The University of Texas at Austin</i>	Mar. 2025 - Now
<ul style="list-style-type: none">Designed and implemented experimental pipelines to evaluate uncertainty in multi-step reasoning by large language models (LLMs), incorporating metrics such as entropy, perplexity, and probability calibration.Conducted statistical analyses to investigate correlations between model confidence and reasoning accuracy.	
[Submitted to NDSS 2026] LLM-Assisted IoT Fuzzing <i>Stevens Institute of Technology</i>	Aug. 2024 – Aug. 2025
<ul style="list-style-type: none">Designed and implement the architecture for context-aware fuzzing for Z-based wireless smart home IoT components.Found over 15 vulnerabilities during the fuzzing process, reporting to related stakeholders.	
[AAAI 2025] Uncertainty Decomposition in LLM <i>The University of Texas at Austin</i>	Mar. 2024 - Aug. 2024
<ul style="list-style-type: none">Aimed to solve the issue that a model's output uncertainty for a prompt may not reflect its uncertainty about the prompt's meaningProposed a new uncertainty decomposition metric that enhances entropy-based methods by accounting for semantic patternsExperiments include perturbation, prompting with LLMs like GPT and LLaMa, uncertainty decomposition, and calibration calculations	
Portable Virus Detection Platform <i>Texas A&M University</i>	Sept. 2021 - May 2022
<ul style="list-style-type: none">Aimed to assist a research project to detect air-born bacteria and viruses in aerosol samples involved with Bio Group and HDE GroupImplemented portable Point-of-care testing with a graduate student, focusing on Android app, web portal and image processingMade the system enable user authentication, allow users to scan the in-droplet sample, get the result in 30s, and stored it in the cloud	
[CISP-BMEI 2018] Laboratory for Brain Science and Neurotechnology <i>Beijing Institute of Technology</i>	Aug. 2018 - Dec 2018
<ul style="list-style-type: none">Assembled a collector of the brain wave, experienced the electric welding and the circuit setupUtilized MATLAB to analyze 500+ patients' brain wave data from hospital	

Publications

- Kyle Cox, Jiawei Xu, Yikun Han, **Rong Xu**, Tianhao Li, Chi-Yang Hsu, Tianlong Chen, Walter Gerych, Ying Ding. Mapping from Meaning: Addressing the Miscalibration of Prompt-Sensitive Language Models. AAAI conference on artificial intelligence, 2025.
- Mingyu Su, **Rong Xu**, Jinfa Cai. Thinking and Emotions Exhibited in Posing and Modeling Processes. American Education Research Association Conference, 2025.
- Tiantian Liu, Yonghao Wang, Tianyi Yan, Yunlei Liu, **Rong Xu**, Jiancheng Li, and Yunyan Xie. “Preclinical Stages of Alzheimer’s Disease Classification by a Rs-fMRI Study.” International Congress on Image and Signal Processing, BioMedical Engineering and Informatics (CISP-BMEI), pp. 1-6. IEEE, 2018.

Project Experience

Building Ontology Classifier (Senior Capstone with Varis)	Aug. 2022 – Dec. 2022
<ul style="list-style-type: none">Built a classifier that can put any product or service into a correct class of the Varis Ontology that has many classes arranged in a hierarchyInvolved with using TF-IDF, SVM, BERT base model, T5 model to finish the project	
Gikiyin (Educating Smart Marine Aggies Robotic Technologies Competition [eSMART])	Feb. 2020 - May 2020
<ul style="list-style-type: none">Led a team of 6 engineers to create a remote-controlled water vehicle, holding weekly meetings to discuss the design and project progressImproved code for connecting an X-box controller to the computer and EV3 controller to manipulate the boat in PythonAwarded the First Place within 20 teams with 500 dollars reward	