

Ajai Ruparelia

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EDUCATION

Ph.D. in Computer Science

Georgia Institute of Technology

Aug 2025 – Present

Atlanta, GA

Master's Degree in Computer Science

Georgia Institute of Technology

Bachelor's Degree in Mathematics

University of California, Santa Cruz

EXPERIENCE

Research Scientist

Dec 2023 – Present

Research Intern

May 2023 – July 2023

Georgia Tech Research Institute

- Design and develop novel systems at the intersection of AI and Cybersecurity, addressing challenges in threat detection, AI trustworthiness, and robustness.
- Secured over \$50,000 in competitive internal R&D (IRAD) funding for novel research initiatives.
- Published research in peer-reviewed proceedings at relevant conferences (e.g., CAMLIS 2024).
- Mentor research interns, providing technical guidance on machine learning and AI Security projects.

Data Engineer

June 2022 – May 2023

Pulley

- Developed a change data capture process for database replication
- Built an internal chatbot using LangChain and GPT-3 for customer support
- Created web scrapers for lead generation
- Automated new-user onboarding, reducing administrative workload
- Designed a pipeline for sales call sentiment analysis using HuggingFace models

Data Scientist

Dec 2020 – June 2022

Lead Data Analyst

Dec 2019 – Dec 2020

BASK Digital Media

- Built an ETL process with Python, Cloud Functions, Docker, and BigQuery, reducing errors by 95%
- Developed an app for managing media plans and spending, focusing on backend and GraphQL queries
- Created a contact classification system using XGBoost
- Built dashboards to track digital spending and client-specific insights
- Managed and trained a team of analysts

Teaching Assistant

June 2019 – Jan 2020

UCSD Data Science Bootcamp

- Taught data science fundamentals: statistics, Python, database management, visualization, and machine learning
- Reviewed and graded projects; held office hours for student questions

Data Analyst

Oct 2018 – Dec 2019

Altium

- Managed data pipelines from sources like S3, Google Analytics, Salesforce, and Marketo using Python and Domo
- Scraped web forums and analyzed sentiment with NLTK and Watson NLU
- Analyzed software usage data and developed KPIs for stakeholders

Junior Software Engineer

Oct 2017 – July 2018

MedPOINT Management

- Developed full-stack applications using C# and LINQ with Entity Framework
- Created tables, views, and stored procedures; generated reports using SQL Server and Tableau

GRANTS AND FUNDING

Lab Directive Independent Research and Development (IRAD)	2025-2026
<i>Georgia Tech Research Institute</i>	<i>\$25,000</i>
<ul style="list-style-type: none">• In collaboration with the School of Cybersecurity and Privacy, developing novel metrics to quantify the vulnerability of Binarized Neural Networks (BNNs) to model extraction attacks.	
Early Career Funding for Independent Research and Development (IRAD)	2024-2025
<i>Georgia Tech Research Institute</i>	<i>\$25,000</i>
<ul style="list-style-type: none">• Investigated the feasibility of reconstructing private text from public embeddings by developing and assessing an embedding inversion attack model.	

PUBLICATIONS

<u>Binary Malware Attribution using LLM Embeddings and Topological Data Analysis</u>	2024
<i>Conference on Applied Machine Learning in Information Security (CAMLIS)</i>	<i>Published</i>