Colin Vu

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EDUCATION

Georgia Institute of Technology **Atlanta, GA**

Bachelor of Science in Computer Science *August 2022 – December 2025*

- **GPA:** 4.0/4.0, *Dean's List, Faculty Honors*
- **Concentrations:** Media/Graphics & Modeling/Simulation
- **Minor:** Industrial Design
- **Coursework:** Algorithms, Data Structures, Object-Oriented Programming, Computer Networks, Computer Architecture, Statistics, Human Centered Design, Computer Graphics, Machine Learning, Fundamentals of GIS, Information Visualization

SKILLS AND AWARDS

Languages: Java, Python, JavaScript, TypeScript, C++, C#, C, HTML, CSS, MySQL, Android XML, Assembly, PHP, Bash, MATLAB
Frameworks/Libraries: React, PyTorch, Pandas, NumPy, Pixi, Node, Junit, TailwindCSS
Tools: Git, AWS, Docker, Jupyter Notebook, Jira/Confluence, Figma, Agile, TortoiseSVN, Postman, Splunk, Android Studio, ArcGIS, Unity, Blender
Awards: Bronze Palm Eagle Scout

EXPERIENCE

Friendly Cities Research Lab **Atlanta, GA**

Undergraduate Research Assistant *January 2025 – Present*

- Manipulated federal databases with Python and ArcGIS to prepare geographic datasets for use by academic researchers.

American Gaming Systems **Duluth, GA**

Full-Stack Software Engineering Intern *May 2024 – August 2024*

- Developed a client-facing UI interface for casino managers to modify slot machine game assets, programmed in Pixi, Node.js, and React.js using Agile principles. Managed tasks and created documentation in Jira/Confluence.
- Led design and integration of the program to connect the front-end interface with internal APIs, diagramming the class framework with Figma and Miro. Developed back-end infrastructure in JavaScript and TypeScript.
- Wrote unit tests with C++ RESTful APIs to ensure the successful interplay of game physics and real-time event mechanics with the front-end UI.
- Delivered project demos to business team and CTO as proof of concept to modernize future trajectory of engineering team.

Georgia Tech Research Institute – Vertically Integrated Projects **Atlanta, GA**

Undergraduate Research Assistant *August 2023 – December 2024*

- Led data engineering efforts in a team identifying climate-related challenges in global infrastructure to inform sustainable development strategies.
- Utilized Prithvi, a NASA/IBM geospatial intelligence tool, to analyze existing satellite data and predict future cropland conditions in Ukrainian towns to shape public policy surrounding redevelopment.
- Developed Geographically Weighted Regression (GWR) algorithms to assess the impact of infrastructure projects on GHG emissions, employing MySQL to clean and standardize the large traffic datasets analyzed.
- Designed professional data visualizations using ArcGIS and Figma to present findings to GTRI researchers, leading to an official Request of Information (ROI) from the Federal Register to document research work.

PROJECTS

ML False News Detection Model | *Python, NumPy, Pandas* *June 2023*

- Developed a machine learning model using Logistic Regression and Natural Language Processing (NLP) techniques to predict the likelihood of an article being fake news, implementing feature extraction methods such as Bag of Words (BoW) and GloVe word embeddings to analyze sentiment and word similarity in news descriptions.
- Processed datasets in Pandas and vectorized text operations in NumPy to extract data and optimize it for model training.
- Iterated upon models to improve detection accuracy, achieving a final model with a 97% confidence interval in accurately identifying whether an article contained false news.

Advanced Crossy Road Clone | *Java, Android XML, Android Studio* *January 2023 – May 2023*

- Led the development of an advanced Crossy Road clone, programming smart enemy collision mechanics and structuring the program with MVC architecture for scalability and maintainability.
- Led Agile-driven development by organizing scrum sessions and diagramming meetings to enhance team efficiency.

Personal Portfolio Website | *React.js, HTML, CSS, JavaScript, AWS* *June 2024 – July 2024*

- Designed and developed a personal portfolio website utilizing React, integrating dynamic JavaScript elements to enhance user interactivity. Created wireframes in Figma to iterate upon design elements before implementation.
- Deployed and hosted the site on AWS, utilizing Route 53 for domain name resolution and traffic routing.