




Julius Broomfield

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EDUCATION

Georgia Institute of Technology

Atlanta, GA

Bachelor of Science in Computer Science

Expected May 2026

Minor(s): *Philosophy*

Concentration(s): *Artificial Intelligence, Modeling & Simulation*

Coursework: *Artificial Intelligence, Cognitive Science, Computer Architecture, Computer Systems & Networks, Data Structures & Algorithms, Design & Analysis of Algorithms, Linear Algebra, Object-Oriented Design*

EXPERIENCE

Microsoft

Redmond, WA

Software Engineering Intern

May 2024 - Present

- Copilot Infrastructure Team in Microsoft Search, Assistant and Intelligence (MSAI)

Supervised Program for Alignment Research

Remote

Machine Learning Researcher

February 2024 - Present

- Conducting research into how to improve safety guardrails of multimodal LLMs against both visual and multi-turn attacks by red-teaming Frontier models with novel jailbreaking methods, supervised by Kellin Pelrine.

Machine Learning Researcher

June 2024 - Present

- Constructing automated tools for screen recording analysis to facilitate LLM agent capability evaluations in sandwiching experiments, supervised by Gabriel Recchia.
- **Skills:** OpenCV, Tesseract, Pillow, Python, Pandas

Microsoft

Redmond, WA

Software Engineering & Product Management (TNT) Intern

June 2023 - August 2023

- Developed an OSINT data privacy management tool to systematically report users' online privacy risks.
- Integrated PII detection model to report PII in consumers' social media content with ~90% detection accuracy.
- Led the development of the engineering specification, establishing critical features and technical requirements.
- **Skills:** Python, Flask, Sentiment Analysis, Figma, Javascript, React.js, Azure, ngrok

PROJECTS


Explainable Music Recommendation System

Present

- Developed XMRS  using novel implementation of LlamaRec to provide explainable recommendations to users.
- Used small-scale hybrid recommenders along with fine-tuned LLMs with CoT prompting and RAG to rank music
- **Skills:** Flask, LangChain, BeautifulSoup, Python


Ideate

September 2023

- Finalist for MLH "Best Use of Google Cloud" Award : PennApps XXIV.
- Developed web application  that turns users' pseudocode and high-level system design directly into code.
- **Skills:** Python, Flask, Javascript, React.js, Google Cloud Platform

Channel Growth Model

April 2023

- Exploratory data analysis  of popular YouTube channels with data visualization to identify trends
- Developed neural network regression model to predict subscriber counts with ~70% accuracy and ~40 MSE
- **Skills:** Python, Pandas, Seaborn, Tensorflow, Numpy, L^AT_EX

TECHNICAL SKILLS

Software Engineering: Flask, HTML, CSS/SCSS, Git, Java, C#, .NET, C/C++, Docker, Firebase

Machine Learning: Python, Scikit-learn, Pandas, Numpy, Tensorflow, Matplotlib, Seaborn, OpenCV, BeautifulSoup