



Alexander Gill

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Education

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| University of Utah
<i>PhD Computing</i> | Aug 2025 – |
| University of Utah
<i>M.Sc. Computing</i> | Aug 2023 – May 2025 |
| ◦ GPA: 4.0/4.0 | |
| Universidad Carlos III de Madrid
<i>Health Information Engineering</i> | Aug 2022 – June 2023 |
| ◦ GPA: 8.26/10.0 | |
| ◦ Coursework: Machine Learning, Deep Learning, Optimization, Computer Vision, Information Theory | |
| University of Utah
<i>Computer Science</i> | Aug 2021 – May 2022 |
| ◦ GPA: 3.88/4.0 | |
| University of Colorado, Boulder
<i>B.S. Aerospace Engineering</i> | Aug 2016 – May 2020 |
| ◦ Double Minor in Computer Science and Space | |

Research Experience

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| Evaluating Web Browsing Agents on Complex Real World Tasks
<i>University of Utah - Research Assistant</i> | 2025 |
| ◦ Lead researcher creating and testing hundreds of unique challenging web browsing tasks | |
| ◦ First benchmark to focus on tasks that require visual understanding & document synthesis | |
| Generating Challenging Reasoning Benchmarks
<i>University of Utah - Research Assistant</i> | 2024 |
| ◦ Lead researcher on a project exploring the capability of LLMs to act as annotators for the creation of complex reasoning datasets | |
| ◦ Showed that LLMs can generate challenging questions which they still struggle to answer | |
| ◦ Conducted a human study with NLP researchers for preference data on generated vs human data | |
| AI Summarization for Graduate Admissions
<i>University of Utah - Research Assistant</i> | 2024 |
| ◦ Created a pipeline for utilizing open-source language models to generate concise PDFs answering questions about graduate applicants using their application information | |
| ◦ Heavily optimized the pipeline using parallelization to process over 500 applications in under 24 hours | |
| Open-Source Influence Functions
<i>University of Utah</i> | 2024
github  |
| ◦ First open source implementation of influence functions using EKFac for large language models | |
| ◦ Created benchmarks for influence function use on open source LLMs, including pythia and OLMo | |
| Cortical Thickness Normative Modeling
<i>Universidad Carlos III de Madrid</i> | 2023
github  |
| ◦ Applied normative modeling to the latent spaces of generative models in order to discriminate between healthy patients and those with cognitive disorders | |
| ◦ Utilized generative models such as autoencoders, variational autoencoders, and adversarial autoencoders to reconstruct the cortical data and create latent spaces | |

Gait Event Detection via Sequential Models

Universidad Carlos III de Madrid

2023

[github](#) 

- Classified walking and running events of Parkinson's patients using recurrent neural network models such as LSTMs and modified convolutional neural networks
- Applied transfer learning to finetune larger models to the task

Publications

Cruising on an Empty Road: Synthetic Evaluations Follow Instructions but Miss Complexity

Feb 2025

Under Review

Alexander Gill, Abhilasha Ravichander, Ana Marasović

On Evaluating Explanation Utility for Human-AI Decision Making in NLP

Nov 2024

EMNLP Findings 2024

Fateme Hashemi Chaleshtori, Atreya Ghosal, **Alexander Gill**, Purbid Bambroo, Ana Marasović

[10.48550/arXiv.2407.03545](https://arxiv.org/abs/10.48550/arXiv.2407.03545) 

Professional Experience

Technical Student Intern

Sandia National Laboratories

Albuquerque, NM

May 2022 – Aug 2022

- Developed a novel UI creation framework for an existing legacy system
- Developed an API for communication with legacy software
- Updated legacy systems to interface with modern UI applications

Associate Systems Engineer

L3 Harris Communications Systems

Salt Lake City, UT

Jan 2022 – May 2022

- Technical solution development for DOD autonomous 5G networks
- Wrote proposals for government contracts, including defining requirements and their solutions

Project Engineer

Suulutaaq Inc.

Eugene, OR

Apr 2021 – Aug 2021

- Engineer on several large projects, including a \$26 million hazard tree removal project, freeway culvert replacement and FEMA emergency relief mobile-home site rebuild

Teaching Experience

Teaching Assistant

University of Utah

Salt Lake City, UT

Aug 2023 – May 2024

- **Head TA** CS1420: Accelerated Object-Oriented Programming
- Taught lab sessions and provided office hours

Teaching Assistant

University of Utah

Salt Lake City, UT

Aug 2024 – Dec 2024

- CS4640: Image Processing
- Designed projects, provided office hours and led review sessions

Skills

Programming Languages: Python, C#, C/C++, R, Java, Matlab, Javascript, HTML, SQL

Software/Libraries: PyTorch, Tensorflow, Keras, Scikit-Learn, OpenCV, ROS, Gazebo, CAD, Github, WPF

Languages: Fluent in Spanish, Japanese