Alex Ayala

RESEARCH ENGINEER

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Key Skills

- Deep Learning Research Experience
- Strong Background in Mathematics
- High-Performance Computing Research Experience
- Extensive Experience in Python

Experience

Data Scientist   *Redmond, WA*

MICROSOFT – ENTITY UNDERSTANDING TEAM   *Jan 2022 - Current*

- Training transformer-based multilingual NLP models on crowdsourced data.
- Maintain deep learning pipelines for training and real-time/batch inference using Azure Machine Learning.
- Transition existing models into other training frameworks to reduce training time and onboard training features.
- Research and prototype ideas to improve model performance.

Deep Learning Research Assistant   *Bellingham, WA*

WESTERN WASHINGTON UNIVERSITY – ADVISOR: DR. BRIAN HUTCHINSON   *Jan 2020 - Dec 2022*

- Lead student on climate generation project – Training conditional Generative Adversarial Networks on climate data.
- Applying object detection to aerial LiDAR data to identify archaeological objects in the Mayapan archaeological zone.
- Discuss results with domain experts in weekly meetings.

Master's Research Intern (National Security Internship)   *Seattle, WA*

PACIFIC NORTHWEST LABORATORY   *June 2020 - Sep 2020*

- Applied transformers to the few-shot learning domain.
- Presented my research progress in bi-weekly meetings.
- Implemented distributed computing in the existing codebase to improve training times.

High Performance Computing Research Assistant   *Bellingham, WA*

WESTERN WASHINGTON UNIVERSITY, LAWRENCE BERKELEY NATIONAL LABORATORY   *Sep 2018 - Sep 2019*

- Worked in a small team to perform program performance analysis & comparison across several HPC applications.
- Created a Python pipeline to process, analyze, and visualize performance data.
- Performed feature-importance analysis on performance data collected on LLNL's Catalyst Cluster.
- Developed a distributed web scraper to generate a dataset of over 4 millions entries, utilized for performance research.

Skills

Libraries	PyTorch, NumPy, Pandas, Scikit-Learn, SciPy, Beautiful Soup, Selenium, Plotly, Matplotlib, D3
Programming	Deep Learning, High-Performance Computing, Data Processing, Data Scraping, Data Visualization

Education

Master of Science, Computer Science   *Bellingham, WA*

WESTERN WASHINGTON UNIVERSITY   *Jan 2020 - Dec 2021*

  GPA — 3.92

Bachelor of Science, Math/Computer Science   *Bellingham, WA*

WESTERN WASHINGTON UNIVERSITY   *Sep 2015 - Dec 2019*

Publications

Loosely Conditioned Emulation of Global Climate Models With Generative Adversarial Networks

TACKLING CLIMATE CHANGE WITH MACHINE LEARNING WORKSHOP – NEURIPS 2020   *2020*

Authors: *Alexis Ayala*, Christopher Drazic, Brian Hutchinson, Ben Kravitz, Claudia Tebaldi

Performance Optimality or Reproducibility: That is the Question

INTERNATIONAL CONFERENCE FOR HIGH PERFORMANCE COMPUTING, NETWORKING, STORAGE AND ANALYSIS   *2019*

Authors: Tapasya Patki, J. J. Thiagarajan, *Alexis Ayala*, T. Z. Islam

Towards A Programmable Analysis and Visualization Framework for Interactive Performance Analytics

SUPER COMPUTING WORKSHOP – PROTOOLS   *2019*

Authors: Tanzima Z. Islam, *Alexis Ayala*, Quentin Jensen, Khaled Ibrahim