

JACOB RENN

610 Rolling Hill Walk ♦ Unit 101 ♦ Odenton, MD 21113
(301)514-5057 ♦ jwrenn4@outlook.com

OBJECTIVE

Machine learning researcher with experience across a range of technologies, business levels, and industries seeking to utilize and grow his knowledge in a fast-paced, innovative environment.

SECURITY CLEARANCE

Top Secret/SCI with Full-Scope Polygraph (Current, Inactive)

EXPERIENCE

AI Squared, Inc.

Chief Technologist

January 2023 - Present

Overview

- Plan and execute technology development within the company, with a focus on research, open source, and data science; report directly to the CEO, working across business units with agility and low oversight to efficiently build technology

Duties and Accomplishments

- Manage multiple engineers, IT professionals, and business executives in the planning and development of company technology
- Plan and oversee the development of technologies built across multiple clouds, development environments, and programming languages
- Serve as company Head of Research and Open Source
- Maintain and lead company product-led growth strategy
- Apply machine learning and technology development expertise to help develop cutting-edge technologies to help maintain and grow company's competitive advantage

Chief Technology Officer

September 2020 - January 2023

Overview:

- Planned, directed, and executed technology development of a multi-million-dollar valued company with customers in both the public and private sector; oversee multiple departments, efforts, and teams; interface with customers, partners, and academic organizations across a variety of efforts; plan, execute, and perform high-impact research to build future versions of company technology

Duties and Accomplishments:

- Managed multiple engineers, IT professionals, and business executives in the planning and development of company technology
- Provided technical support leading to contracts with multiple high-profile customers across public and private industry
- Planned and oversaw the development of technologies built across multiple clouds, development environments, and programming languages
- Contributed to company's Free and/or Open Source technology stack by serving as primary developer for various projects released to The Python Package Index
- Assisted in creating company technology plans contributing to company obtaining Series Seed Funding.
- Was primary developer on an approximately \$250,000 subcontract involving the integration of existing ontologies into end-user workflows for federal customers

Delivery Data Scientist, Microsoft Corporation

May 2020 - November 2021

Overview:

- Provide data science expertise across a range of domains and application areas as a consultant and technical liaison between Microsoft and its customers, primarily serving public sector customers

Duties and Accomplishments:

- Utilized deep learning expertise to create, train, and deploy machine learning models into proof-of-concept tool which has been showcased to multiple government agencies
- Assessed government requirements to help determine overall bid price and compile proposal materials on multiple contract opportunities
- Provided support to prime government contractor seeking to modernize existing system architecture and reliability
- Worked as part of a collaborative team with government personnel and other company consultants to develop advanced cloud based analytics to secure customer enterprise environment

Data Scientist, WaveStrike, LLC

June 2019 - April 2020

Overview:

- Provided machine learning, analytic, and programming expertise in support of federal government text analytics research and company research and development efforts

Duties and Accomplishments:

- Worked with company leadership to expand business operations by submitting proposals to NSF and DoD customers to develop next-generation interpretable AI technologies
- Developed multiple-purpose software to facilitate end-to-end text experiments. Capabilities include extracting and preprocessing text, training models with user-specified hyperparameters, aligning hypothesis and reference data, and testing model performance by multiple scoring metrics
- Worked collaboratively to design and implement a system to iteratively obtain data from various sources and perform updates to BERT models by fine-tuning on this data utilizing a high performance computing environment
- Developed application allowing researchers and developers to access and process streaming text data at ingest speeds on the order of 100s of documents per second
- Worked with a small team of researchers, software engineers, and data scientists to improve neural network model performance on few shot text classification tasks

Data Scientist, United States Department of Defense

July 2018 - June 2019

Overview:

- Employed a variety of computer science, mathematics, and software engineering skills to derive strategies and tools for extracting meaning from datasets of varying size and organizational structure

Duties and Accomplishments:

- Researched and applied a variety of natural language processing techniques, including topic modeling, automatic stopword detection, and document similarity
- Developed robust image classification models using data augmentation and image processing techniques
- Engineered data pipelines and automation workflows to significantly reduce man-hours spent on repeated tasks
- Created customized, installable Python packages to address project needs
- Revamped the onboarding and initial training process for new data scientists
- Interviewed external applicants applying to the data scientist position

EDUCATION

PhD in Technology, Capitol Technology University

2022

- Research Area: Explainable Artificial Intelligence
- Dissertation Title: *Linear Regression Feature Engineering in Classification Tree Learning*

Master of Science in Business Analytics, University of Maryland

2018

- 4.0 GPA

Bachelor of Science in Mathematics, University of Maryland

2017

- 3.77 GPA, Honors College Citation