JACOB RENN

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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.

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

PROFESSIONAL EXPERIENCE

Chief Technology Officer and Board Member, AI Squared, Inc.   *November 2021 - Present*

Overview:

– Plan, direct, and execute 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.

Chief Technology Officer and Lead Data Scientist, CCNOAI, LLC.   *April 2020 - November 2021*

Overview:

– Leading company engineering and research and development efforts to expand company's technology portfolio and build technologies to be brought to market, providing technical insights on projects and proposals to assess feasibility and technical difficulty of approach, and performing technical delivery on company efforts

Duties and Accomplishments:

– Developed concept of and built prototype implementation of AI-based recommendation system which has since received seed funding from the NSF I-Corps Program and purchase orders for a minimum viable product from multiple companies
– Won and was sole deliverer on a short, 8-week, $20,000+ contract to build, train and deploy state-of-the-art deep learning models for text classification and spoofed speech identification
– Built proprietary company technology which improves performance of neural networks while also reducing computational complexity by a significant factor; currently seeking patent for this technology
– Provided technical inputs for company research and development and government contract proposals ranging in value from approximately $250,000 research proposals to multi-million-dollar contracts

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