J. Alex Hurt, PhD

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Professional Profile

Since 2017, I have worked as a Machine Learning and High Performance Computing researcher, utilizing state-of-the-art technologies to optimally leverage large amounts of data as well as enable and accelerate real-world applications of Machine Learning. With over eight years of experience and more than thirty-five publications, I am capable of performing in critical data science and machine learning roles

Technical Skills

- **Programming**: Python3, C/C++, SQL, CUDA
- **Machine Learning**: Sci-kit Learn, TensorFlow, Keras, PyTorch, Detectron2, MMDetection, MMPretrain, Ultralytics
- **Technologies**: Jupyter, VCS (Git/SVN), Docker, CI/CD, Kubernetes, Slurm, Linux, PostgreSQL, Google Cloud, AWS

Soft Skills

- Proficient in Spanish
- Hard-working, dependable team player with a strong work ethic
- Quick learner who takes instruction well
- Prioritizes and works well under pressure to meet deadlines
- Effective at multitasking
- Detail oriented

Education

PhD in Computer Science
University of Missouri - Columbia
2018 – 2022

- **Dissertation Title**: Increasing Compulsory Shape Bias in Deep Neral Networks with Differential Morphology for Classification and Detection in Remote Sensing Imagery
- **Graduate Certificate in AI and ML**

Bachelor of Science in Computer Science
University of Missouri - Columbia
2015 – 2018

Technical Experience

Assistant Research Professor
University of Missouri - Columbia
2022 – Present

- Led NSF and DoD Funded Research Efforts in the ML and HPC domain
- Taught graduate-level courses in Data Science and ML topics: Cloud Computing, Data VIsualization, Supervised Learning, and Computer Vision
- Performed critical roles on several DoD AI/ML projects, including as primary Technical Point of Contact for delivery of applied ML algorithms
- Designed, developed, and maintained custom data pipelines and ML libraries used to perform Computer Vision tasks using novel deep learning architectures
- Built frameworks to scale and automate ML and other data-intensive workflows

Graduate Researcher
University of Missouri - Columbia
2018 – 2022

- Performed and analyzed suites of experiments for applications of ML on Satellite Imagery using frameworks such as PyTorch, Keras, and Tensorflow.
- Worked as part of a small team to design, implement, and maintain a custom Geospatial Database to enable the creation of imagery datasets used for Machine Learning Applications

Database Administrator and Webmaster
University of Missouri - Columbia
2016 – 2017

- Designed, implemented, and maintained MySQL database and web application with no technical assistance for Plant Science Research Laboratory
- Performed all development responsibilities, including requirements elicitation, design, development, UAT, and deployment