

Jackson Hassell

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EXPERIENCE

Applied Research Laboratories – Engineering Scientist June 2022 - Present

- Project lead for novel machine learning research project that outperformed human experts by 54%.
 - Created a custom supervised learning ensemble model that leveraged the lab's physics-based simulator to reduce error by 32% compared to the best off-the-shelf model.
 - Trained a multi-headed LSTM neural network with pinball loss to predict uncertainty bounds. Utilized conformal prediction techniques to reduce coverage probability error to less than 1%.
 - Presented results at several national conferences and wrote research article for distribution.
- Contributed to a large, cross-company imbalanced classification project. Increased f1-score by 5% over previously used highly mature method by employing XGBoost and modern data sampling techniques.
- Worked extensively with project sponsors to determine end-user needs and product specifications.
- Gave series of lab-wide talks to hundreds of coworkers introducing common machine learning topics.
- Promoted to senior research position three years earlier than is typical.

Dell – Full Stack Software Developer July 2020 - June 2021

- Built a new React-based MyAccount experience in an agile, team-based environment, using JavaScript micro frontend injectable apps with C# .Net and SQL database backends.

Amazon – Software Development Intern May 2019 - August 2019

- Built full stack web app that used AWS to host digital products to be sold on Amazon.com.
- Leveraged large SQL database to automatically populate file metadata with relevant information.

KLRU-TV – Data Analyst Intern June 2017 - May 2019

- Analyzed, visualized, and modeled TV show ratings using Python and Tableau. Reported directly to CEO.

PROJECTS

Graduate Capstone Project with TMF Health Quality Institute | [Link](#)

- Modeled Covid cases across 15,000 nursing homes using both deep learning and statistical models.
- Used Tableau to create a dashboard that highlighted at-risk homes and explained why.

Researching LLM Tool Use With GPT-4 | [Link](#)

- Improved generated code quality and allowed GPT-4 to synthesize information from a variety of sources with no human input by augmenting the model with a custom code interpreter and web search API.
- Created general, scalable framework for making new tools and introducing them to an LLM.

EDUCATION

The University of Texas at Austin | 3.6 GPA

- **Master of Science in Business Analytics** May 2022
- **Bachelor of Science in Computer Science and Bachelor of Arts in Plan II** May 2020

SKILLS

Programming Languages: Python, Matlab, SQL, C#, JavaScript, TypeScript, HTML, CSS, Java.

Technologies: Tableau, Tensorflow/Keras, PyTorch, HuggingFace, scikit-learn, Pandas, Numpy, Git, AWS, natural language processing (NLP), large language models (LLMs), generative AI, reinforcement learning.