Isaiah Long Ka Jones

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Education

Northwestern University – Evanston, IL
Master of Science in Computer Science – GPA: 4.0
Bachelor of Arts in Computer Science – GPA: 3.78

Relevant Coursework: Data Structures, Operating Systems, Computer Networking, Algorithms, Computational Linguistics, Deep Learning (Tranformers, RNNs, LSTMs, Reinforcement Learning), Generative Deep Models (GANs, VAEs, Diffusion Models)

Work Experience

Machine Learning Research Intern – Fermilab   *Aug 2022 – Dec 2022*
• Investigated and tested various neural network architectures aimed to disentangle beam loss monitor readings between main injector and recycler accelerators.
• Designed and tested various models (Multilayer Perceptron, U-Net, RNNs) with Keras and PyTorch
• Constructed a ML pipelines that automates the cycle of extracting data from a data source, cleaning and processing the data, transferring the data to the cloud, training a model on the cloud, and then evaluating/validating the model.
• Performed hyperparameter tuning to improve upon model efficiency and performance metrics

Quant Research Intern – Chicago Global   *Jun 2021 – Sept 2021*
• Developed and implemented successful investment strategies by replicating research papers utilizing alternative data.
• Optimized a methods to analyze market sentiment and help portfolio manager systematically adjust hedge ratios
• Performed time-series analysis on 30,000+ stock dataset to improve internal risk factors and other measurements of value and profitability
• Built web scrapers for fund data using Selenium and Python and created various interactive data visualizations

Software Engineering Intern – Cydeas   *Jun 2020 – Dec 2020*
• Developed back-end infrastructure and RESTful APIs for web applications in Clojure deployed in the cloud
• Managed several SQL server databases (Postgres) to support the delivery of data in real-time for sales conversions customer inquiries, trouble tickets, and system health
• Designed an SEO-optimized landing page for SaaS company that increased traffic by more than 200%

Software Engineering Intern – Dalton Learning Lab   *Jul 2019 – Aug 2019*
• Created Arduino programs and corresponding study guides aimed to teach programming basics to children
• Constructed a variety of block style input and output handlers in JavaScript to run on offline site

Research Experience

Twitter Birdwatch Research Paper – People, Space, and Algorithms Research Group at Northwestern University
• Authored and presented poster paper at CSCW investigating data labor by Twitter Birdwatch participants
• Automated application of NLP algorithms (TF-IDF, LDA topic modeling) and developed machine learning pipelines to process text data and extract predictive signals from the moderation responses using LightGBM and spaCy
• Aggregated and processed 19,000+ tweet and 200,000+ moderation actions dataset using Twitter API in Python
• Created a variety of data visualizations using Matplotlib and Seaborn

Gun Violence Data Analysis – N3 Lab at Northwestern University
• Consolidated data using SQL, BigQuery, and various APIs to create of data visualizations and conduct analysis

Projects

Transformer Based Sonnet Generator | *Python, PyTorch, Transformers*
• Developed and fine-tuned an GPT-2 attention model successful in generating unique and varied Shakespearean sonnets
Baseball Pitching Statistical Analysis | *Python, Pandas, Matplotlib, XGBoost*
• Examined 48,000+ row pitching dataset to predict all-star nominations and conduct feature importance analysis

Technical Skills

Programming: Python, C/C++, JavaScript, MATLAB, R, Clojure, Java, SQL (Postgres, MySQL)
Machine Learning: PyTorch, keras, Spark , NumPy, pandas, scikit-learn, matplotlib, spaCy, Dask, XGBoost,
Developer Tools: AWS, Docker, Flask, BeautifulSoup, Git, Selenium, Netlify CMS

Research Interests

AI for Social Good, Natural Language Processing, Deep Learning, Generative AI