Chris Kerwell Gresla

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LinkedIn | GitHub

Education

University of Illinois at Chicago (UIC) — **Chicago, IL**
Masters of Science in Business Analytics — Expected May 2022
Bachelors of Science in Finance — August 2017 - December 2020

Professional Experience

Center for Applied Analytics (CAA) — **Chicago, IL**
Graduate Research Assistant — November 2021 - Present

- Developed and deployed models for healthcare audit classification on behalf of Claris Health
- Engineered model features on 4 million rows/360 columns of live clinical data
- Worked on all aspects of model lifecycle, including: ideation, engineering, deployment and maintaining
- GSFUs- wrote a python package for users as part of a Gini-to-Fourier series research project
- Researching utilizing Fourier transforms and auto-encoders to compress time-series data as part of a healthcare insurance provider fraud detection solution

Office of Planning Sustainability & Project Management (PSPM) — **Chicago, IL**
Project Manager — May 2021 - January 2022

- Oversaw the implementation of a new document management system for over 150,000 space, engineering and architectural files – developed algorithms to automate over 17,000 hours of user work
- Assisted with space reporting for requests by the NSF, CMS, State and Internal entities
- As part of HEFMA, developed dashboards on data from 18 universities to assist with reporting and built data-driven solutions as recommendations for strategic decisions at UIC and partner institutions
- As part of a team of 4, built the UIC Interactive Map- https://maps.uic.edu/
- Developed a new PSPM Website and maintained websites for 5 different organizations at UIC

Union Bank of Switzerland (UBS) — **Chicago, IL**
Corporate Cash Management (Full-Time) — February 2020 - May 2021

- Sole analyst on team of 20 which oversaw over $28 billion in AUM for corporations and HNWIs
- Researched companies and contacts for cash management opportunities, leading to acquisition of $110M in new business over the duration of time at UBS
- Assisted with monthly and quarterly portfolio updates as well as ad-hoc client requests
- Conducted bond fund analyses for use in group marketing materials and trading research

Centre for Continuing Education (CCE) — **Sydney, Australia**
Finance & Marketing Internships — July 2019 - November 2019

- Analyzed student metrics to create a targeted advertising campaign to boost course enrollments
- Maintained the CCE website and published updates, primarily with HTML, CSS and a little Javascript
- Developed statistical models to forecast enrollments and price company courses

Tools & Skills

Programming Languages- Adept in Python, Bash and SQL; familiar with R; learning Haskell and Scala
Frameworks & Packages- PyTorch, Awk, Numpy, Pandas, TensorFlow, Gym, tidyverse, SkLearn, Hugo, MatPlotLib, Spark, Ranger, Dask, caret, Vim, Azure Databricks, MLFlow, Unity, Docker and Zsh
Applications- Excel, Tableau, PowerBI, VS Code, postgreSQL, Amazon Workspaces, Unity, GitHub, Google Colab, Vim, and R Studio

Projects

COVID Vaccine Sentiment Analysis- During the initial rollout of vaccines in 2020, myself and one colleague built a data scraping pipeline to aggregate anonymous information for instagram posts related to vaccines. We made use of transfer learning to extract demographic information from images and various NLP techniques to process the captions and comments – ultimately these metrics led to a study of the sentiment around the rollout of vaccines, topic modeling and the "validity" of vaccine related posts amongst different user demographics and locations. Some of the more interesting points were; highly-negative opinions across age groups towards the Johnson & Johnson vaccine (as there was an emerging discussion around the efficacy and risk of the single shot vaccine) as well as many posts related to "conspiracy-like" topics from both pro and anti vaccine perspectives.

3D Walker RL- Built a physics based simulation in the Unity game engine to teach a 3D agent (with control over joints) how to walk. Currently, I am implementing a Proximal Policy Optimization algorithm and would like to explore alternate RL methods for learning, particularly model-based and model-free methods.

"BitPact" A Study of the Impact of Bitcoin- Analyzed Bitcoin through the lenses of; the environment, it's financial and social impacts – built a dataset of these three distinct data streams from scratch (scraped Reddit posts, used GPU energy requirements/hash rates to estimate the power consumption/effect on environment and pricing data since being widely listed in 2012) and explored the relationships between data paradigms and Bitcoin from each perspective.

AI Trading Bots- As part of a Capstone project I was selected to develop 4 different machine learning based trading strategies as the backend to a new cryptocurrency product offering for Kavi Labs. The project is a full-stack proof of concept, so I and a small team of 3 individuals are working on everything; sourcing data from APIs, developing high-frequency trading strategies, building models to execute on those strategies, creating dashboards that can be integrated on a mobile platform and making our algorithms talk with exchanges to make real trades. The two models I was responsible for were a DQN based RL model and a LSTM with Attention both of which were developed on 1m Level 1 market data with market related features we developed.

Achievements & Interests

Business Analytics Organization (BAO) – President – uic-bao.github.io

- Developed the BAO Website
- Hosted a Professional Development Day event for +50 organization members
- Put together and hosted a number of Speaker Events, inviting and speaking to notable professionals and academics in the analytics space

Mr. Illinois Teen Physique Champion - 2018 (Natural Bodybuilding)

Travel- So far I have ventured to; Sweden, Denmark, Italy, Greece, Australia, Indonesia, Mexico and Japan
Jazz- Bebop, Big Band, Bossa Nova and Standards – bebop specifically pairs brilliantly with programming
Coffee- Robusta is best in the Drip, but a single shot of Espresso and a ML paper is simply delightful
Philosophy- some of my favorite schools of thought are; Stoicism, Taoism, Romanticism and Existentialism
History- Not only is it fascinating, but studying it allows us to avoid making mistakes on "solved" problems
Cosmology- Spectroscopy allows us to understand the composition of planet atmospheres, how cool!
Languages- Native level proficiency in English – beginners level in Hindi and Mandarin