Jonathan Koppelman

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WORK EXPERIENCE

Software Engineer – Bank of America – New York, NY   *Jul 2020 – Present*
- Streamlined capital commitment warehouse reporting with a dashboard to analyze warehouse pools and download monthly warehouse reports, as well as view collateral exposures.
- Prototyped an algorithm to organize Asset Backed Lending deals to emphasize focus on deals predicted to be at highest risk of triggering covenants per sector

Software Engineering Intern - Bank of America – New York, NY   *Jun 2019 – Aug 2019*
- Built a full stack covenant monitoring tool, in collaboration with the asset-backed lending (ABL) front office desk to manage risk for a $50 Billion ABL Portfolio (JavaScript based UI, Python based Backend)

Undergraduate Research Program @ LESA RPI – Troy, NY   *May 2018 – Sept 2018*
- Developed computer vision software libraries for an Android application that decodes modulated light (Li-Fi) into binary data (packets) using the back facing camera
- Successfully integrated the Li-Fi software into the contractor's infrastructure

PROJECTS

UFC Fight Outcome Predictor – Syosset, NY   *Feb 2020 - Present*
- Developed an algorithm in a Jupyter Notebook that trained models to predict UFC fight outcomes based on feature engineered historic pre-fight fighter data (i.e., average punches thrown a fight)
  - The models came out with an F1 score of 74% on the test set

League of Legends Model – Syosset, NY   *Aug 2020 - Present*
- Scrapped historic League of Legends data using the Beautiful Soup Python library
- Feature engineered and preprocessed the data in a Jupyter Notebook to train the models to predict outcomes of games using pre-match player data
  - The models came out with an F1 score of 81% on the test set

Automated Algorithmic Betting – Syosset, NY   *May 2020 - Present*
- Engineered an algorithm that exposes value in betting websites odds by utilizing the UFC fight outcome and League of Legends' models
- Implemented a pipeline in which the models' implied odds and the betting websites' implied odds get aggregated and sent to the betting algorithm, which then outputs the positioned and sized bets
- Applies a long-term betting approach that treats events as a probability instead of a binary outcome
- Positioned and sized over 200 bets, with 67% return in 30 weeks, and a Sharpe Ratio of 1.06
- Automatically stores all relevant information for tracking progress to a MongoDB instance

Natural Language Processing IBM Competition @ RPI – Troy, NY   *Aug 2019 - Dec 2019*
- Programmed a street vendor AI that negotiates prices of commodities and can also compete with other venders to get a sale; achieving 1st place in the competition

Utilized Python, NumPy, TensorFlow, Scikit-Learn and Pandas for the machine learning and data processing, and Matplotlib for data visualization in all projects

EDUCATION

Rensselaer Polytechnic Institute   **Troy, NY**
Bachelor of Science in Computer Science   **Graduated: May 2020**
Bachelor of Science in Information Technology and Web Science   **Overall GPA - 3.30**

SKILLS

Proficient: Python, Pandas, NumPy, PyTorch, Scikit-Learn, JavaScript, Matplotlib, Classification Problems
Comfortable: C++, Java, HTML, MySQL, NLP
Familiar: R, Nodejs, React.js, MongoDB, App Development