Vinay Kanigicherla

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Education

University of California, Berkeley Expected Graduation: 2023

Bachelor of Science, Electrical Engineering and Computer Science *GPA: 3.88*

- **Relevant Coursework:** Data Structures (CS 61B), Structure and Interpretation of Computer Programs (CS 61A), Designing Information Devices and Systems I & II (EECS16A/B), Multivariable Calculus (MATH 53)
- **Organizations:** Big Data at Berkeley, Data Science Society Berkeley

Experience

Data Consultant Feb. 2021 – Present

TripAdvisor Inc. *Berkeley, CA*

- Developing NLP based solutions for TripAdvisor as a member of Big Data at Berkeley's Projects Committee
- Leveraging autoencoder based approach for anomaly detection and classical DNNs for multiclass text classification
- Conducting extensive text data preprocessing, feature generation, and text embedding generation with Doc2Vec

Undergraduate Research Assistant Jan. 2021 – Present

CAHL Lab, Berkeley School of Information *Berkeley, CA*

- Working as a Machine Learning Developer contributing to the AskOski Reseach Project under the guidance of Prof. Zachary Pardos in the CAHL (Computational Approaches to Human Learning) Lab
- Processing and training DNN sequence models on millions of data points for tasks such as course prerequisite prediction, next semester enrollment, and grade prediction
- Experimenting with multi-modal representation learning techniques to generate course vector embeddings using both sequential student enrollments and course catalog description data; combining vector embeddings generated using models like Course2Vec and Doc2Vec
- Leveraging state-of-the-art transformer architectures like BERT, classical DNNs, and ensemebles of classical tree-based ML models for prediction tasks

Machine Learning Intern May 2019 – Aug. 2019

PointR Data Inc. *Santa Clara, CA*

- Developed multiple-object tracking algorithm to track customers in real-time from raw CCTV camera footage
- Leveraged Tiny YOLOv3 Architecture for object detection task; conducted transfer learning in order to optimize human detection accuracy, achieving a detection accuracy of 98%
- Implemented object tracking methods based on bounding box velocity and frame-to-frame bounding box IOU

Projects

MMAPredict Nov. 2020 – Dec. 2020

- Developed a model capable of predicting the outcome of MMA Bouts in the UFC; predicted the outcome of all fights in 2020 with 80% accuracy
- Employed a multi-level stacking approach with a diverse set of 10 classifiers, conducted hyperparameter tuning on both base classifiers and meta-classifiers
- Conducted extensive data cleaning, feature engineering, and feature selection to obtain final train/val/test data splits
- Obtained raw data using a custom-built web spider to autonomously scrape historical fight data

PDF2LaTeX Aug. 2020 – Sep. 2020

- Developed a program for converting PDF files into LaTeX code using image processing techniques
- Conducted paragraph level segmentation of PDF pages using morphological transforms and connected component contours, implemented using Python OpenCV; leveraged PyTesseract API for OCR and text vs. non-text region classification
- Ideated an object-oriented representation of LaTeX documents to programatically generate .tex files

Technical Skills and Certifications

Languages: Python, Java, SQL, JavaScript, HTML/CSS, Scheme
Libraries: Tensorflow, PyTorch, Sci-kit Learn, OpenCV, NLTK, Gensim, Pandas, NumPy, Matplotlib, Scrapy
Developer Tools: Git, Docker, FloydHub, VS Code, Visual Studio, PyCharm, IntelliJ
Certifications: deeplearning.ai Specialization, Udacity Deep Learning Nanodegree