JOSEPH LILLEBERG

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EDUCATION

M.S. Computer Science in Programming Languages, Compilers, & Software Engineering *Sept. 2016 - June 2018*
University of California, San Diego CGPA : 3.49/4.0

B.S. Computer Science, B.A. Mathematics *Aug. 2012 - May 2016*
Southwest Minnesota State University CGPA : 3.81/4.0

SKILLS

Programming Languages: Python, JavaScript, C++, SQL, Java, R — **Version Control:** Git
Frameworks: TensorFlow, Keras, Scikit-Learn, PyTorch, Spacy, Trax, TensorFlow.js
Technical Skills: Webscraping, Machine Learning, Deep Learning, NLP, Computer Vision, Time Series Forecasting
Libraries: BeautifulSoup, Selenium, NLTK, OpenCV, Pandas, Numpy, Statsmodels, Seaborn, Scipy, Matplotlib, Scattertext

EXPERIENCE

Professional Development and Project-based Work Minnesota, Marshall

- Completed 31 AI & DS courses, earning professional certifications, and many independent end-to-end projects. June 2019 - Present
- Completed 20 Web Dev. & Full Stack courses, built an interactive web project & a personal portfolio website. Oct. 2018 - June 2019

NSF funded research internship in Computer Security Denton, Texas
University of North Texas *June 2015 - Aug. 2015*

- Developed an app. that uses changes in EEG wave patterns to detect subconscious recognition for preventing malicious attacks.

NSF funded research internship in High Performance Data Mining Atlanta, Geogia
Georgia State University *May 2014 - July 2014*

- Classified 18,000 documents with 89.73% accuracy using an aggregate model of wod2vec weighted by tf-idf w/o stopwords and tf-idf without stop words. Resulted in a first author publication in IEEE (see below).

INDEPENDENT PROJECTS

Natural Language Processing *Nov. 2020*

- Trained a reformer model on philosophical texts for text generation using Google's Trax framework to produce original works.

Computer Vision *Nov. 2020*

- Developed a classifier trained on artwork of top influential artists with high class imbalance to predict their respective artist.
- Performed transfer learning, implemented custom class weights, and fine-tuned the model to achieve a high precision and F1 score.

Time series Forecasting and Prediction *Nov. 2020*

- Forecasted the prices of Platinum and Palladium for the next two years using SARIMA models and Facebook's Prophet.
- Performed STL-decomposition, ACF and PACF plots, and multiple statistical tests such as dickey-fuller to evaluate forecasts.

Predicting Prices of Used Cars *Oct. 2020*

- Implemented a regression model with TensorFlow's processing layers that predicts prices of used cars with an adj. R^2 of .82

Topic Modeling, Sentiment and Textual Analysis of U.S. Presidential Transcripts *Dec. 2019 - Mar. 2020*

- Created a dataset by webscraping and cleaning 992 official presidential transcripts using Python and Spacy.
- Built a webpage for 288 interactive visualizations for qualitative analysis, topic modeling, and sentiment analysis.

CERTIFICATIONS

- **Deeplearning.AI Specializations:** Deep Learning, Natural Language Processing, Generative Adversarial Networks, TensorFlow: Developer Certification, and TensorFlow: Data and Deployment
- **Workera.ai Deep Learning Engineer:** Evaluates skills by assessing the ability to perform tasks such as data engineering, modeling, deployment, business analysis, and AI infrastructure; Ranked average percentile of 90.6% among all categories.

PUBLICATIONS

- J. Lilleberg, Y. Zhu and Y. Zhang, "Support vector machines and Word2vec for text classification with semantic features," *2015 IEEE 14th International Conference on Cognitive Informatics & Cognitive Computing (ICCI*CC)*, Beijing, 2015, pp. 136-140, doi: 10.1109/ICCI-CC.2015.7259377.