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, 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 26 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 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 application that uses changes in EEG wave patterns to detect subconscious recognition.

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).

SELECTED PROJECTS

Natural Language Processing *Nov. 2020*
- Trained a reformer model on philosophical texts for text generation using Google's Trax framework.

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 that predicts the prices of used cars in Belarus with an adjusted R2 of .82 using TensorFlow

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, 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.