JOSEPH LILLEBERG

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EDUCATION

Master's in Computer Science *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, SQL, Java, R, — **Frameworks:** Scikit-Learn, TensorFlow, Trax
Tech. Skills: Webscraping, Machine Learning, Deep Learning, NLP, Image processing, Forecasting — **Version Control:** Git
Relevant Coursework: Linear Algebra, Calculus I, II, III, Combinatorics, Adv. Statistics, Principles of AI: Probabilistic Reasoning and Decision-Making, Principle of Software Engineering, Interaction Design Research, and Real Analysis

EXPERIENCE

Web Development and Artificial Intelligence Minnesota, Marshall
Self-Reflection *Oct. 2018 - Nov. 2020*

- Studied Web Development & Full Stack, built a personal website, but the experience left a lot to be desired. — Oct. 2018 - June 2019
- Completed 20+ AI courses, earning professional certifications, and many independent end-to-end projects — June 2019 - Present

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

Predicting Artists from Artwork with High Class Imbalance using Transfer Learning *Nov. 2020*

- Developed a classifier using transfer learning, custom class weights, and fine-tuning to handle class imbalance using TensorFlow.

Philosophical Text Generation with Reformers *Oct. 2020*

- Implemented a reformer model trained on Plato's *The Republic* to generate philosophical texts using Google Brain's Trax.

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

Forecasting Platinum and Palladium Prices *May 2019*

- 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.

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.
- Generated 288 interactive visualizations for qualitative analysis, topic modeling, and sentiment analysis on the political eras.

CERTIFICATIONS

- **Deeplearning.ai Specializations:** Deep Learning (V82BPPW4Q52P), Natural Language Processing (Z7ZXRLRX3RBQ), TensorFlow: Developer Certification (9R93ZC43XFTD), and TensorFlow: Data and Deployment (LUH6GPTN4HPT)
- **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; avg. percentile of 90.6% among all categories. (BWMIUTOR)

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.