

Joshua Silverberg

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EDUCATION

University of Michigan, Ann Arbor

April 2023

- Bachelor of Science and Engineering in Computer Science
- Minors in Mathematics and Applied Statistics
- Cumulative GPA: 3.76/4.00
- Relevant coursework: Data Structures & Algorithms, Web Systems, Computational Data Science & ML

EXPERIENCE

Software Development Engineering Intern

May 2021 – July 2021

Amazon, Seattle, WA

- Worked on the Alexa Brain Metrics and Learning team on utterance rewrite generation pipeline
- Created secure logging system for evaluation of model functionality in distributed container workflow
- Designed, planned, and built system to securely handle up to 1800 TPS of 5KB confidential logs with negligible latency overhead on critical path
- Documented and presented three designs to engineers and scientists from teams throughout Amazon
- Extended and integrated existing Amazon logging library into rewrite pipeline using Google Guice
- Updated pipeline CDK scripts to automatically deploy required AWS infrastructure (EC2, Route53)

Engineering Intern

July 2020 – April 2021

Zazraak, Bratislava, Slovakia

- Developed automated summary question generation data pipeline using four statistical and neural text summarizers in tandem with Huggingface transformer models modified with PyTorch
- Collaborated with Founder on business analysis and strategizing using Design Thinking methodology
- Implemented extractive text summarization algorithm using key-term analysis with Python NLTK
- Led backend deployment of pipeline on GCP App Engine using Flask, as well as frontend deployment as Google Docs plugin using HTML/CSS, JavaScript, and Google Apps Script

Undergraduate Research Assistant

Oct 2019 – May 2020

Machine Learning for Social Media Lab, University of Michigan, Ann Arbor, MI

- Initiated, planned, and executed project comparing two RNN-based models' adherence to subreddit comment styles in generated responses to prompts
- Compiled and synthesized almost 100 academic papers into executive summaries in meta-research phase
- Modified code from ACL-2019 paper on LSTM-based seq2seq comment generation with TensorFlow
- Built custom comment scraper in Python to selectively aggregate dataset of almost 9000 comments
- Presented academic poster of research findings in 2020 UROP Research Symposium

ML Stock Sentiment Prediction Personal Project

Jan 2021 – Present

https://github.com/JoshSilverb/ssp_ml

- Creating market sentiment prediction program that scrapes recent tweets to classify any stock as bullish, bearish, or neutral with approximately 50% accuracy
- Implemented using custom and out-of-box prediction models from Tensorflow and scikit-learn
- Deploying system to AWS Lambda for easier access and faster computation

KEY SKILLS

Programming:	Bash, C/C++, Python, Java, JavaScript, HTML/CSS, SQL
Technologies:	AWS, CI/CD pipelines, Docker, GCP, Git, Hadoop, Make, MapReduce
Soft Skills:	Public speaking, Project management, Research management
Languages:	English (native), Slovak (fluent), German (conversational)