Ashwin Mishra

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Education

University of California - San Diego **August 2021 – present**
Master of Science in Computer Science — GPA: 4.0/4.0 *La Jolla, CA*

Youngstown State University **August 2016 – May 2019**
Bachelor of Science in Computer Science — GPA: 4.0/4.0 *Youngstown, OH*

Experience

SenSource Inc. **June 2019 – April 2021**
Software Engineer *Austintown, Ohio*

- Developed *SafeSpace* - a real-time occupancy-monitoring app - to prevent overcrowding during COVID-19 pandemic.
- Improved occupancy data retrieval time by nearly **30%** by optimizing SQL queries and caching strategies.
- Reduced deployment time significantly by transforming a monolith into several gRPC-based microservices.

Research

Eye Tracking | *Java, JavaScript* **May 2017 - June 2018**

- Led the development of **iTrace** - a software that implicitly gathers eye gazes and maps them to the screen elements.

Drew T. Guarnera, Corey A. Bryant, Ashwin Mishra, Jonathan I. Maletic, and Bonita Sharif. 2018. iTrace: eye tracking infrastructure for development environments. DOI: https://doi.org/10.1145/3204493.3208343

Projects

Recommender Systems | *Python, PyTorch* **November 2021**

- Developed a sequential prediction model that recommends users new places to visit based on previous visits.
- Implemented a FPMC model (content and geographical features) on Google reviews, beating state-of-the-art models.

Reinforcement Learning | *Python* **October 2021**

- Improved the win-rate of the agent in *Blackjack* from **15%** to **60%** using Temporal difference and Q-learning.
- Implemented expectimax algorithm with a combination of successful heuristics for the game of 2048 (Max score: 45000).

Speech Recognition | *Python, TensorFlow* **May 2019**

- Developed an end-to-end speech recognition application that converts speech to text using deep CNN.
- Implemented sequence annotation without alignment that is on par with CTC but simpler.

Textual Sentiment Analysis | *Python, NLTK, JavaScript* **February 2019**

- Developed a Chrome extension that analyzes the sentiments behind professor reviews.
- Implemented a model for sentiment analysis using Multinomial Naive Bayes algorithm and TF-IDF.

Skills

Languages: Python, JavaScript, C++, Java, Rust
ML framework/libraries: TensorFlow, PyTorch, NLTK, spaCy, scikit-learn, pandas, numpy, scipy, plotly
Web framework/libraries: Angular 2+, Ionic, Koa.js
Databases: MongoDB, postgreSQL, CouchDB
Developer Tools: VS Code, Android Studio, RStudio, Jupyter
Other Technologies: Linux, Jenkins, Git, Docker, Kubernetes

Achievements & Honors

- Ranked 85th percentile in the Kaggle competition for predicting recipe ratings from *Food.com* (2021)
- Awarded *President's Scholarship* for undergraduate education (2016 – 2019)
- Awarded *Best Demo* at the ACM Symposium on Eye Tracking Research & Applications (ETRA) (2018)
- Awarded *Most Valuable Person in a Team* in Software Engineering course at Youngstown State University (2017)