

# Melvin Ma

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## Education

**Oregon State University**, School of Computer Science

Expected June 2022

*B.S. Computer Science*

- Cumulative GPA: 3.9/4.0, Dean's List
- Relevant Coursework: Deep Learning, Machine Learning, Databases, Statistics, Data Structures
- Scholarships: Finley Academic Excellence (\$5000/year awarded for high school GPA of 3.40+), International Baccalaureate Diploma (\$3000/year awarded for 30+ IB exam and Diploma)

## Work Experience

**Sales Compensation Intern - Trane Technologies**

June 2021 - August 2021

- Achieved an accuracy of 85% when forecasting ahead 4 quarters for various revenue streams by implementing a supervised machine learning model using **Pytorch** for time series prediction
- Investigated causes for anomalies in datasets with millions of records through data exploration using **Alteryx** and collaborated with different business leaders in order to accurately perform cleansing procedures for each uniquely sourced data based on their respective system
- Detailed the process and results of the machine learning model to senior leaders by creating a presentation with **Powerpoint** and **Tableau** in order to green light continual development of the project for further use by the forecasting team

**Undergraduate Software Lead - Data Science for the Public Good**

June 2020 - September 2020

- Identified critical domain areas contributing to the economic disparities between Eastern Oregon and Western Idaho by conducting stakeholder meetings, literature reviews, and web scraping
- Consolidated statistics of Eastern Oregon's economic factors into a dashboard using **R's Shinydashboard** and research paper, and presented to both a technical audience at nationwide symposiums and to non-technical stakeholders at Oregon Border Board meetings
- Provided findings to the Oregon Border Board as evidence in favor of Competitive Housing Incentive programs, which awarded the City of Malheur \$60,000 in the May 3rd, 2021 meeting

## Extracurricular Activities

**Group Finder App**

March 2021 - Current

*Link:* <https://github.com/mmamel/LonelyDog>

- Created a RESTful api that uses **MongoDB** for the backend and **Node/Express** for middleware to power a web app that allows users to create and join live chat rooms.
- Leveraged **MongoDB change streams** and **Pusher** to perform live message updates with less than 500ms delay.
- Implemented CRUD paradigm to manipulate user data hosted in **MongoDB Atlas**.
- Maintained product backlog and sprint backlog in **Asana** to facilitate project development
- Authenticated users with **JSON WebToken** and stored token in cookie to prevent XSS attacks
- Generated CSRF token with **csurf** to prevent Cross-site Request Forgery attacks

**Assistant Researcher**

May 2021 - Current

*Professor Link:* <https://eecs.oregonstate.edu/people/termehchy-arash>

- Assisted in a research project with the objective of using reinforcement learning to model future actions in open-ended information discovery through large datasets
- Provided support by cleaning data, researching related models, and brainstorming feature design