Timothy Chen

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EDUCATION

Pepperdine University — Aug. 2021 – May 2025

Bachelor of Science in Computer Science and Mathematics, Minor in Data Science

- Cumulative GPA: 3.99 / 4.00
- Honors: Dean's List, Northrop Grumman Scholarship, Darnell Scholarship, Natural Science Grant, Keck Grant
- Coursework: Machine Learning, Applied Data Science, Image Analysis, Data Structures, Computer Networking

EXPERIENCE

Amazon — May 2024 – Aug. 2024

Data Engineer Intern — *Seattle, WA*

- Designed a data analytics platform consolidating 100k+ B2B Alexa transactions using Airflow, S3, Redshift
- Constructed an AWS based ETL system to expedite deployment time for prospective Alexa Enterprise clients
- Built internal LLM chatbot on Amazon Bedrock to handle common data inquiries for business development teams

Samsung — May 2023 – Aug. 2023

Software Engineer Intern — *Austin, TX*

- Implemented full-stack redesign of Samsung foundry's defect reporting system using Django, React, pandas
- Integrated scheduled status updates, yield forecasts, and data visualizations using Apache Impala, sklearn, seaborn
- Optimized backend infrastructure by refactoring data pulls on SQL, Spark, pandas, and Dremio Data Lakehouse

Pepperdine University Application Development — Aug. 2022 – May 2024

Software Development — *Malibu, CA*

- Owned development for SSO Helper, a MFA registry platform on Pepperdine University online applications
- Lead contributor for eSign, a secure document signing portal for Pepperdine University official documents
- Used MVC, .NET Core, Entity Framework, Blazor, C#, Javascript, HTML/CSS, Asana, Git

Keck Institute for Data Science — May 2022 – May 2023

Research Assistant – Dr. Adam Pennell, Pepperdine University — *Malibu, CA*

- Modeled minimum AIC, random forest imputation, quantile regression, and P-splines smoothing in R on 14M+ data points to create centile curves for Special Olympic athlete balance used in clinical practice
- Presented at the 2023 International Symposium for Adapted Physical Activity in Dunedin, New Zealand

PROJECTS

Deep Learning Classification of Plant Xylem Tissue from Light Micrographs | *Dr. Fabien Scalzo*

- A PyTorch CNN pipeline built around YOLO that detects over 1,000 plant cells at a time at a .94 F1 score
- Leveraged active learning algorithms to develop an automated plant cell annotation system
- Utilized Python, PyTorch, Roboflow, scikit-learn, Google Colab

Transformer Based Document Clustering for Academic Search and Recommendations | *Dr. Fabien Scalzo*

- Customized the k-means, spectral methods, and EM clustering algorithms to develop a document grouping model that sorts publications based on *SPECTER* (Cohan et al. 2020) embeddings, a language processing metric
- Employed pandas, scikit-learn, PyTorch, Google Colab, and Semantic Scholar APIs

SKILLS & INTERESTS

Languages: Python, SQL, C#, C++, R, Java, C, Assembly, JavaScript, HTML, CSS, Excel, Racket, Prolog
Tools & Frameworks: AWS, Airflow, pandas, Spark, PyTorch, sklearn, Roboflow, S3, Wireshark, Redshift, QuickSight
Hackathons: Morgan Stanley CTG Hackathon Spring 2023 Finalist, Alteryx 2023 Datathon
Volunteering: Teaching Assistant: CS 221 - Discrete Structures, University Resident Life Advisor