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
- Coursework: Data Structures, Computer Systems, Machine Learning, Image Analysis, Computer Networking
- Awards: Dean's List; Northrop Grumman Endowed Scholarship (3 selected from the CS program); Darnell Scholarship (awarded by faculty); Natural Science Division Scholarship (3x); Keck Data Science Grant (2x)

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 tool for various in-house equipment
- Integrated scheduled status updates, yield forecasts, and data visualizations using Apache Impala, sklearn, seaborn
- Optimized data architecture by refactoring pipelines on SQL, Spark, pandas, and Dremio Data Lakehouse

Pepperdine University Application Development Aug. 2022 – May 2024

Software Engineer *Malibu, CA*

- Owned development for SSO Helper, a MFA registry platform for Pepperdine University online applications
- Reworked eSign, an electronic document signing portal for securely transferring official university documents
- Built applications using ASP.NET Core MVC, Entity Framework, MudBlazor, C#, Javascript, HTML, CSS

Keck Institute for Data Science May 2022 – May 2023

Research Fellow – 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

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)
Volunteering: Teaching Assistant (5 semesters): CS 220/221 (Formal Methods, Discrete Structures), Resident Advisor