# 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 – Present

*Data Engineer Intern – Alexa Enterprise* *Seattle, WA*

- Designed a data analytics pipeline consolidating 100k+ B2B Alexa transactions using Airflow, Salesforce, Redshift
- Leveraged Quicksight, SQL, and Q to build revenue insights and subscription trends for Amazon's global partners
- Constructed an AWS based ETL system to expedite deployment time for prospecting Alexa Enterprise clients

**Samsung** May 2023 – Aug. 2023

*Software Engineer Intern* *Austin, TX*

- Implemented a defect detection ETL pipeline, improving machine error handling, efficiency, and scalability
- Developed a yield prediction model that identifies tool parameters causing reduced yield using gradient boosting
- Incorporated Python, pandas, sklearn, Spark, SQL, Apache Impala, Dremio, pyodbc

**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 for 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 classifies 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*

- Recreated 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), 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