

Diane Chiang

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EDUCATION

University of Washington

Masters of Science in Data Science

Seattle, WA

Mar 2025

- GPA: 3.99/4.0

University of Michigan

Bachelor of Science in Computer Science and Statistics

Ann Arbor, MI

Apr 2023

- GPA: 3.97/4.0

SKILLS

Programming languages: Python, R, SQL, C++, Javascript (React)

Data Science: NLP, Supervised Learning, Unsupervised Learning, Deep Learning, Retrieval Augmented Generation

Libraries: Pandas, Numpy, Scikit-learn, Scipy, Gensim, NLTK, Matplotlib, FastAPI, Streamlit, Requests

Tools: Amazon Web Services, Jira, Azure DevOps, Microsoft Office

PROFESSIONAL EXPERIENCE

Data Science Intern – Advanced Diagnostic Analytics

Chicago, IL

Cat Digital at Caterpillar Inc.

May 2023–Present

- Developed a minimum viable product for guided troubleshooting, including an interactive dashboard and ChatBot, with potential cost savings projected to exceed \$10 million per year upon full-scale.
- Designed and implemented efficient API routes (FastAPI) for the guided troubleshooting website interface, resulting in improved system responsiveness, scalability, and maintenance efficiency, enhancing the overall user experience for customers and dealers.
- Implemented a ChatBot using Python (Streamlit, FastAPI, Word2Vec), automating troubleshooting and enhancing efficiency by accurately predicting repairs based on customer input.
- Aided in implementing the Random Forest Classifier algorithm for precise repair forecasting, leveraging customer and dealer input on completed procedures, thereby improving repair accuracy and service quality.
- Utilized advanced natural language processing techniques (Word2Vec, K-means clustering, Latent Semantic Analysis, and Latent Dirichlet Allocation) to analyse 97,000+ dealer and customer feedback tickets, informing data-driven UI improvements and predictive interface enhancements.
- Presented topic modelling results to executives, guiding discussions that defined search engine deliverables for automating expert responses, enhancing operational efficiency, and improving user experience.

Student Research Assistant

Ann Arbor, MI

Efeslab – University of Michigan

May 2022 – Aug 2022

- Produced data visualization by processing millions of instructions from Google workload traces and assisted with academic paper writing, resulting in data visuals included in published paper.

Student Software Engineer – Team Lead

Ann Arbor, MI

Cat Digital at Caterpillar Inc. – University of Michigan

Jan 2022 – Dec 2022

- Developed an accurate data model to classify customer responses to maintenance alerts, evaluate their value, and generalize business conditions, optimizing efficiency by minimizing machine downtime.
- Analysed data from over 400 machines, incorporating alerts, expert recommendations, and work orders, to inform the design of the data model.
- Led project planning efforts and facilitated communication within a mentor-student team to ensure the timely delivery of the final product presentation, achieving a successful stretch goal.
- Received recognition from Cat Digital engineers and professors for effectively addressing challenging questions during the data model design pitch in a professional manner.
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