

Leon Zhang

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Summary of Qualifications

Programming Languages: Python · Java · SQL · R · MATLAB · C++ · JavaScript · HTML · CSS

Software Tools: ML (Sklearn, PyTorch, TensorFlow, Keras, Hugging Face) · Cloud (AWS, Azure, GCP) · Git · Docker · ETL (Spark, MapReduce, Snowflake, RapidMiner) · CI/CD · Flask · Visualization (Tableau, Grafana)

Skills: Machine Learning · Deep Learning · Natural Language Processing · Computer Vision · Statistical Modeling · Data Engineering · Database Management Systems (RDBMS, NoSQL) · Data Structures · Algorithms · Data Visualization · A/B Testing

Certifications: AWS Certified Solution Architect – Associate [\[Credentials\]](#)

Education

Duke University | Durham, NC

Aug. 2020 – Apr. 2022

Master of Science, Data Science (MIDS)

Overall GPA: 3.83/4.00

- Duke Interdisciplinary Product Management Club: Co-Founder, [\[SQL Workshop Speaker\]](#)

University of Washington | Seattle, WA

Sep. 2016 – Jun. 2020

Bachelor of Science, Chemical Engineering

Overall GPA: 3.55/4.00

Computer Science GPA: 3.76/4.00

Professional Experiences

Machine Learning Graduate Researcher | Duke Health System | Durham, NC

Jan. 2021 – Present

- Assist doctors in finding targeted cancer treatment through implementing clustering algorithms using Python and R.
- Formulate a new algorithm that produces symptom-patient block clusters after effective communication with stakeholders on the research goal.

Data Science Intern | Windstream | Durham, NC (Remote)

May. 2021 – Aug. 2021

- Improved chatbot customer services with transformer-based sentiment analysis models using PyTorch.
- Established REST API endpoints of deep learning models for cross-functional usage including chatbot and KPI dashboards.
- Accelerated customer digital adoption by 30% through communicating insights and building dashboards on user activities, remedy tickets, IVR routing, and customer satisfaction using SQL, Python, statistical modeling, and Grafana.

Research Assistant | University of Washington | Seattle, WA

Jan. 2019 – Jun. 2020

- Devised a variational autoencoder with the research team to explore chemical reaction pathways and predict intermediate chemical species using TensorFlow, NumPy, and Pandas.
- Implemented rotational techniques with quaternion coordinate system to visualize molecule interactions in Python and C++.

Projects & Competitions

Reinforcement Learning for Algorithmic Stock Trading [\[Link\]](#)

Sep. 2021

- Develop trading strategies from deep reinforcement learning algorithms using PyTorch and StableBaseline3.
- Designed a simulated trading environment that provides reinforcement learning algorithms with feedback using OpenAI Gym.

2020 Duke Datathon – 1st Place [\[Link\]](#)

Oct. 2020

- Collaborated in a team of four in presenting insights of COVID-19 economic impacts and proposing relieves using time-series and regression models in R and Python.
- Built a comprehensive metric using PCA that reflects the economic condition of a country over time to perform modeling.

Movie Recommendation Web Application [\[Link\]](#)

Aug. 2020

- Launched a full-stack web app on GCP to provide movie recommendations using Python, JavaScript, Flask, HTML, and CSS.
- Automated code testing, deployment, and scaling pipelines through CI/CD practices.

Flight Booking System [\[Link\]](#)

May. 2019

- Built a flight booking service database application with user management and booking capabilities using JBDM and Azure.
- Implement transactions and unit tests to ensure concurrent booking commands do not conflict.