

# JUNWON CHOI

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## EDUCATION

### University of California, Davis

Davis, CA

Master of Science, Statistics (Data Science Track)

December 2025

- **Relevant Coursework:** Big Data and High Performance Statistical Computing, Statistical Methods for Research

### University of California, Los Angeles (UCLA)

Los Angeles, CA

Bachelor of Science, Data Theory

June 2024

- **Relevant Coursework:** Data Analysis and Regression, Machine Learning, Data Ethics, Statistical Models in Finance
- **Activities:** DataRes (Machine Learning Team Lead), Undergraduate Mathematics Students Association (Member)

## EXPERIENCE

### Data Science Intern

January 2025 – Present

Stockholm Environment Institute

Davis, CA

- Research machine learning models and present integration strategies to improve water allocation model performance
- Generate data visualizations and insights for publications and policy briefs, driving data-informed decision-making
- Develop and document geospatial indicator applications using Google Earth Engine API, advancing spatial data analysis

### Data Science Intern

March 2023 – September 2024

Sensing and Robotics for Infrastructure (SRI) Lab at UCLA

Los Angeles, CA

- Led multiple projects to add key features to a robust road assessment web application funded by City of Los Angeles
- Integrated automated web-scraping and processing scripts to AWS ETL pipeline to restructure 10+ GB of data weekly
- Applied graph algorithms and predictive models to uncover road demand trends and inform equitable road maintenance
- Customized computer vision models to detect parked vehicles and roadblocks from onboard vehicle camera footage

### Data Team Director / Data Editor

May 2023 – June 2024

The Daily Bruin

Los Angeles, CA

- Directed a team of 20 journalists to publish 50+ articles and data visualization inserts across multiple newsroom sections
- Analyzed GA4 web traffic data for all 17 internal teams and advised content strategies to increase overall engagement
- Expanded production capacity threefold by launching two internal production teams and training 15+ new reporters

### Data Journalist

October 2022 – May 2023

The Daily Bruin

Los Angeles, CA

- Pitched and produced data-driven, interactive, and responsive web articles using React, JavaScript, and HTML/CSS
- Interviewed and liaised with external organizations and individuals for dataset requests and story details

### Technician / Communications Squad Leader

October 2020 – April 2022

Republic of Korea Marine Corps

Gimpo, South Korea

- Supervised a 20-person team and provided detailed status reports to senior leadership, ensuring efficient daily operations
- Operated and maintained advanced technical equipment, achieving 100% communication reliability during operations

## RESEARCH / PROJECTS

### Performance of TDA Filtrations in High Dimensional Simplicial Neural Networks | *Research Paper*

- Designed and optimized multi-input convolutional neural network to classify high-dimensional simplicial complexes
- Refined visual analysis of CNN convolutional layer activations influenced by varying topological features and filtrations

### Synthetic Survey Data Generation and Evaluation | *Research Paper (Accepted to ACM KDD 2025: ADS Track)*

- Built end-to-end pipeline to generate synthetic data using U.S. voter files with parametric, GAN, LLM based models
- Proposed comprehensive framework to assess synthetic data quality, balancing utility and privacy in real-world scenarios

### Fingerhut (Online Retailer) Strategic Consulting | *Capstone Project (Data Theory, B.S.)*

- Analyzed 1.6+ million customer web sessions to extract key features driving account activation and purchases
- Implemented custom stochastic model to predict and visualize customer behavior based on advertisement exposure
- Presented insights and recommended strategic changes to Fingerhut executives to increase customer retention

## SKILLS

**Programming Languages:** Python, R, SQL (MySQL, SQLite), JavaScript, HTML/CSS, L<sup>A</sup>T<sub>E</sub>X

**Data Technologies:** Git, AWS (S3, EC2, RDS, Lambda), Tableau, Excel, Google Analytics, D3.js, Databricks

**Machine Learning:** PyTorch, TensorFlow, scikit-learn, NetworkX, igraph, OpenCV

**Languages:** English and Korean (bilingual fluency)