

# Hyunseo “Joelle” Cho

**Location** | South Korea / San Jose, California  
**Phone** | +82 (10)-5436-2839 / +1 (408)-439-5783  
**Citizenship** | South Korea / US F-1 OPT Holder

**LinkedIn** | [www.linkedin.com/joellecho](http://www.linkedin.com/joellecho)  
**GitHub** | <https://github.com/joellecho>  
**Email** | [joellehscho@gmail.com](mailto:joellehscho@gmail.com)

## EDUCATION

**San Jose State University**, College of Science

San Jose, CA

- **B.S. in Applied Mathematics** (Statistics Concentration) Aug 2020 – May 2023
- GPA: 3.257/4.000
- Coursework
  - **Applied Mathematics** | Machine Learning in Large Data, Mathematical Modeling for Life Sciences, Mathematical Modeling, Mathematical Cryptography, Mathematical Statistics, Probability Theory, Applied Probability and Statistics, Advanced Calculus, Calculus 3
  - **Programming** | Data Structure and Algorithms, R programming, Python & SQL
  - **Business** | Marketing Research, System Analysis & Design, Marketing, Microeconomics/Macroeconomics

**Sookmyung Girls’ High School**, Seoul, South Korea

Feb 2015 – Mar 2018

## TECHNICAL SKILLS

**Programming Language** | Python, R, SQL, MATLAB, LaTeX, Linux

**Data Analysis & Visualization** | NumPy, Pandas, Matplotlib, Seaborn, Plotly, Tableau, Excel, IBM SPSS Statistics

**Data Science** | Data Mining, Data Preprocessing, Statistical Analysis, Mathematical Modeling, Predictive Modeling

**Machine Learning** | Scikit-Learn, TensorFlow, Pytorch, Supervised Learning, Clustering, Dimensionality Reduction

**Business** | Marketing Research, System Analysis & Design (LucidChart), Business Documentations

**Additional Skills** | Fluent in Korean and English, Adobe(photoshop), MS Office Suites, Golf, Hiking

## WORK EXPERIENCE at San Jose State University

**Machine Learning Research Assistant** – *SJSU Department of Mathematics & Statistics*

Jan 2023 – May 2023

- Assisted Professor in developing a neural network approach to scalable spectral clustering, specifically in cosine similarity. (*Research Topic: “Fast, Memory – Efficient Spectral Clustering in Cosine Similarity”*)
- Working with Machine Learning applications, Model training/Inferencing on a Linux server.
- Build reports and conduct statistical analysis as necessary for the data and reporting needs.

**Administrative Assistant** – *SJSU Department of Mathematics and Statistics*

Jan 2022 – May 2023

- Developed a Courses Catalog Analyzer using Python, resulting in streamlined administrative tasks.
- Assisted faculty members in conducting administrative duties and other office events, ensuring smooth operations.
- Collaborated with the Financial Team at the Dean's office to compile monthly financial and activity reports, providing accurate and up-to-date information for decision-making.
- Monitored office expenses, submitted purchase orders, and managed office budgets, ensuring financial accountability and proper allocation of resources.

**Social Media Data Analyst/Coordinator** – *NCAA Women’s Basketball Team at SJSU*

Aug 2022 – Jan 2023

- Analyzed social media data and developed a strategy to increase exposure to internal/external audiences by 15%.
- Led social media initiatives by collaborating with coaches/athletes, and media teams, to create high-quality content.
- Developed skills in social media analytics, digital storytelling, digital art/illustrations, and media strategy.

**Math Teaching Assistant** – *SJSU Department of Mathematics & Statistics*

Aug 2021 – Dec 2022

- Planned and execute rigorous instruction of the Calculus 1 and 2 curricula while identifying subjects students struggle with.
- Honed time management skills through balancing 20+ hours a week to communicate with professors, curate specialized subject matter, and work individually with students.

## RELEVANT PROJECTS at San Jose State University

**Statistical Analysis** on A Randomized Clinical Trial with Varying Treatment Effects Over Time May 2023

**SKILLS | Python, R, Data Transformation, Statistical Analysis (Linear Mixed Model, LEVENE), Hypothesis Testing**

- Utilized Python and R for Exploratory Data Analysis before setting the hypothesis to conduct Statistical Analysis in order to investigate the effects of a novel diet on weight loss in a cohort of 1000 women over a five-month period.
- Transformed data using statistical method, and conducted advanced statistical analysis utilizing Linear Mixed Model

**Free Online Learning Platform matches Students and Instructors using Optimized Algorithm** Apr 2023

**SKILLS | Business Documentation, Excel, System Modeling (UML/LucidChart), Project Management**

- Conducted process, requirement, feasibility and risk analysis using Excel as a Business Analyst
- Modeled the system using UML on LucidChart, ensuring a clear & comprehensive understanding of system's design.
- Managed the project using Scrum methodology under a collaborative environment, utilizing tools such as Jira.

**Adapting Machine Learning** to Predict Mice Class Based on 77 Protein Level Jan 2023

**SKILLS | Python, Data Preprocessing/Visualization, Machine Learning (t-SNE, Decision Tree, KNN, etc.)**

- Performed Data Preprocessing using NumPy & Pandas and Conducted Exploratory Data Analysis using Matplotlib.
- Build Machine Learning models using Scikit-Learn for Dimensionality Reduction(t-SNE), Classification (Decision Tree, Random Forest, KNN) to predict Genotypes of Mice and 8 different Mice Classes based on 77 protein levels.
- Achieved 73% accuracy in predicting Genotypes and 98% accuracy in predicting Mice classes and visualized it in 3D.

**Mathematical Modeling** on the Great Plague of London Fall 2022

**SKILLS | Mathematical Modeling, MATLAB**

- Conducted the NSIRS mathematical model to analyze the population impact of the Great Plague of London.
- Led and organized group mathematical modeling efforts on a 48-hour project turnaround time.

**Marketing Research** on Consumer Perceptions of Metaverse using SPSS Fall 2022

**SKILLS | IBM SPSS Statistics, Marketing Research, Statistical Analysis (Linear Regression, t-test, ANOVA)**

- Constructed a survey and analyzed 67 consumers' perceptions of a metaverse in several industries.
- Used SPSS to analyze primary data and test hypotheses using statistical analysis methods involving Cronbach's Alpha Test, Linear Regression, one-sample/paired t-test, ANOVA.

**Adapting Machine Learning Algorithm** to predict Body Performance Based on Physical Condition Spring 2022

**SKILLS | Python, Data Preprocessing, Data Visualization, Machine Learning (PCA, KNN, Regression, Clustering)**

- Performed Data Cleaning, Features Scaling, and Feature Engineering using Pandas and NumPy packages in Python.
- Used Python libraries to implement machine learning algorithms involving Dimensionality Reduction (PCA), Classification (KNN), Linear Regression, and Spectral Clustering for estimating body performance ability/class and blood pressure based on observed data and BMI level.

## LEADERSHIP EXPERIENCE at San Jose State University

**International Peer Mentor** – *SJSU International Student and Scholar Services* May 2021 – May 2023

- Assisted international students to successfully get adapted to the U.S. college culture and systems.
- Led the Peer Mentor teams to develop meetings/programs with our mentees.

**Resident Advisor** – *SJSU University Housing Services* Aug 2021 – Dec 2021

- Counseled and advised 34 First year Student-Athletes while enforcing Campus Living Policies.
- Collaborated with other resident assistants to develop a successful hall community and program.

## VOLUNTEER

**SK Young Volunteer Group SUNNY** – South Korea Apr 2020 – Jun 2020

**Universal Flash Storage Association (UFSA) Volunteer** – Santa Clara, CA Aug 2018

- Introduced new UFS card products and conducted live demos for prospective buyers and partners.
- Serve as a liaison between the head principal engineer and visitors to ensure smooth product displays.