

# TSELMEN ANUURAD

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## EDUCATION

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

*Bachelor of Science, Statistics and Data Science*

Cumulative GPA: 3.94, **College Honors**

Relevant Coursework: Real Analysis (Planned), Linear Algebra, Mathematical Statistics, Probability Theory, Multivariate Calculus

Los Angeles, CA

June 2026

### Sacramento City College (SCC)

*Associate in Science in Mathematics for Transfer*

Cumulative GPA: 4.0, **President's Highest Honors**

Sacramento, CA

May 2024

## RESEARCH EXPERIENCE

### Summer Institute of Biostatistics and Data Science, UC Irvine

Irvine, CA

#### Research Fellow

June 2025 – Present

- Applied advanced statistical modeling to Alzheimer's Disease (AD) data including GLM, survival analysis, and CART in R to identify optimal cognitive endpoints for future AD clinical trials
- Achieved AUC of 0.835 and identified 3 clinical endpoints reducing required sample size for future trials by 25%
- Engineered 5 reusable R functions for large-scale data cleaning and predictive modeling, significantly enhancing workflow efficiency for the research team; code well-documented and publicly available on GitHub
- **Current Focus:** Finalizing the manuscript for publication and developing methods to adjust for learning effects; study abstract **accepted for publication** in the Journal of Prevention of Alzheimer's Disease (JPAD) and **poster presentation** at 18th Clinical Trials on Alzheimer's Disease

### UC Davis, School of Medicine

Davis, CA

#### Undergraduate Research Assistant

October 2024 – August 2025

- Conducted statistical analyses, including paired t-tests and one-way ANOVA, to quantify significant changes in lipoprotein(a) lipid species in response to dietary interventions
- Performed exploratory data analysis and visualization in R to investigate three large-volume datasets (100 observations of 600 variables) and inform insights
- Contributed to manuscript preparation by aiding in revisions and responding to feedback from journal reviewers

### UCLA Fielding School of Public Health

Los Angeles, CA

#### Undergraduate Research Assistant

February 2025 – June 2025

- Deployed an interactive R Shiny dashboard to visualize 500k+ neuronal spike-train events, utilizing cross-correlograms and raster plots to allow collaborators to explore novel data
- Analyzed spike-train data using circular-shift surrogates to isolate statistically significant neuronal interactions, assigned p-values to correlated neurons
- Delivered weekly statistical reports containing meeting notes, visualizations, and summaries to inform ongoing AD research

## PUBLICATIONS

- **Anuurad, T.**, Chan, C., Labia, H., Maierhofer, T. (2025). *UCLA Stats Calculator (Version 1.0)* [Computer software]. <https://github.com/tselmena/S25-STATS-199-Shiny-App>
- Gaona-Partida, P., **Anuurad, T.**, Sequeira, I., Ragaine, E., Turner, C., Grill, J.D., & Gillen, D.L. (2025). Instructing Efficient Early Phase Preclinical Alzheimer's Disease Trials [Abstract]. *The Journal of Prevention of Alzheimer's Disease (JPAD)*. (Special Issue: CTAD 2025).
- Myagmarsuren, M.; Law, H.G.; Zhang, W.; **Anuurad, T.**; Bang, H.; Bishop, L.M.; Shen, T.; Fiehn, O.; Petersen, K.S.; Berglund, L.; et al. (2025). Lipoprotein(a) Lipidome: Responses to Reduced Dietary Saturated Fat Intake in Two Randomized Controlled Feeding Trials. *Nutrients*, 17, 3113. <https://doi.org/10.3390/nu17193113>

## PROJECTS

### UCLA Stats Calculator (R Shiny App)

#### Project Lead

Los Angeles, CA

March 2025 – June 2025

- Led development of an interactive statistics calculator in R Shiny (1,300+ lines of code), developing a robust pedagogical tool now officially hosted by the UCLA Statistics Department; to be used in future courses
- Directed technical workflow for 3-person team, implementing version control and delegating feature development
- Adapted to feedback from faculty in weekly research meetings, ensuring quality and accuracy while authoring significant code and documentation for this open-source resource

## TEACHING & LEADERSHIP

### UCLA Department of Statistics

#### Learning Intern (STATS 20: Intro to Statistical Programming with R)

Los Angeles, CA

January 2025 – March 2025

- Mentored students through weekly office hours and discussion sections twice a week, breaking down complex programming topics to foster deeper understanding
- Developed comprehensive teaching materials, including 3 exam reviews with answer keys, and led review sessions for over 150 attendees; volunteered extra hours to grade midterm exam
- Coordinated weekly meetings with professor and other LIs to refine teaching strategies and maintain schedule

### American Statistical Association (ASA) DataFest

Los Angeles, CA

#### Co-Chair

September 2024 – Present

- Oversee all operations for the West Coast's largest student data hackathon (400+ participants), managing fundraising, logistics, and organization across team of 12 students
- Recruit and spearhead a leadership committee organized into 3 sub-teams, serving as primary liaison between students and faculty directors
- Serve on leadership board of Stats Club; volunteer for community outreach events and provide mentorship to general members while representing the Statistics Department

## SKILLS & INTERESTS

**Programming:** R (Advanced; Shiny, ggplot2, mlr3, caret, pROC, tidyverse), Python (pandas, scikit-learn, NumPy), SQL

**Software & Tools:** Tableau, Git/GitHub, LaTeX

**Statistical Methods:** GLM, Ridge Regression, Survival Analysis, Longitudinal Analysis, Hypothesis Testing (ANOVA, t-tests), Bootstrapping

**Machine Learning:** Random Forest, Decision Trees (CART), Cross-validation, Feature Selection, ROC/AUC Analysis

**Interests:** Badminton (UCLA Competitive Badminton Team), K-Dramas, Anime, Cooking, Rock Climbing, Weightlifting