SHUAICHENG (ALLEN) TONG

Los Angeles, CA 90024 | allensctong@gmail.com | (424) 465-0660 | linkedin.com/in/allentong24

EDUCATION

University of California, Los Angeles (UCLA)   Los Angeles, CA
Bachelor of Science, Applied Mathematics, Minor in Statistics   Expected June 2024
- GPA: 3.91 (Dean's Honors List)
- Relevant Coursework: Methods of Data Theory, Probability Theory, Mathematical Statistics, Data Analysis and Regression, Real Analysis, Advanced Linear Algebra, Numerical Analysis, Statistical Programming with R, Object-oriented Programming & Data Structures in C++, Beating Pandemic with AI

SKILLS

- Coding Languages: Python (proficient), R (proficient), C++ (intermediate), MATLAB (intermediate)
- Methods: Optimization, Gradient Descent, Stochastic Processes, Linear & Dynamic Programming, Topic Modeling, Regression Analysis, Model Building

RELEVANT EXPERIENCE

Emory University Computational Mathematics REU | *Research Assistant*   May 2022 – July 2022
- Investigate fast and efficient algorithms for training implicit networks, with emphasis on their applications to inverse problems, under the advisement of Prof. Samy Wu Fung.
- Build neural networks without inverting the Jacobian in image recovering; achieve a better benchmark than traditional feed-forward neural networks while reducing computational cost.

UCLA Chancellor's LINK Program | *Fellow*   November 2021 – Present
- The Chancellor's Leadership, Innovation, Networking and Knowledge (LINK) Program fosters the leadership development, critical thinking and self-reflection, and career readiness of UCLA undergraduate students.
- Selected as 1 of 22 students in the 2022 cohort through a campus-wide recruitment by the Chancellor's Office.
- Engage in seminars incorporating community leaders; brainstorm innovative solutions to issues such as homelessness; network with national leaders and UCLA alumni.

DataRes at UCLA | *Senior Data Analyst & Deep Learning Researcher*   October 2021 – Present
- Developed and maintained a SQL player performance database; built a data pipeline using Python.
- Created an interactive dashboard using Power BI and composed biweekly reports that make data understandable for coaches and athletes; enabled automatic data updates and new player file creations.
- Research graph applications in neural networks, including graph neural networks, graph convolutional networks, knowledge graphs, embeddings and dimensional reduction.

UCLA Statistics Club | *Mathematics & Statistics Tutor*   October 2021 – Present
- Tutor all lower division Mathematics and Statistics courses, including Calculus, Multivariable Calculus, Linear Algebra, Differential Equations, and Statistical Programming.

Department of Statistics, UCLA | *Programming with R Final Project*   June 2021 - August 2021
- Discovered the number of traffic accidents is high at night among southern states.
- Developed an interactive web app with R displaying the location and time of traffic accidents in Florida during customizable periods by cleaning and wrangling a set of over 200,000 data.

ASA DataFest @ UCLA | *Team Head*   March 2021 - April 2021
- Led a team of 5 in the largest data science competition at UCLA.
- Visualized drug abuse correlation coefficients by decomposing coefficient matrices and graphing state maps of US, UK, Canada, and Germany with Tableau.
- Selected as 1 out of 30 teams to present final findings to the principal investigator at TERC, Jennifer Noll.

Engineer Inc. | *Student Researcher*   Gainesville, FL, May 2019 - January 2020
- Advised by University of Florida professor, Matthew Traum, on a research project investigating whether the NFL Deflategate controversy could be explained by Gay-Lussac Law's thermophysical application inside a football.
- Built an equipment with industry-leading precision in temperature and pressure collection; collected and analyzed over 500 data entries by graphing thermodynamic functions using Fourier Analysis and Excel.

- Published papers[1] on AIAA SciTech Forum and ASEE as the first author and the only high school presenter at the AIAA Engineering Education Subdivision.

LEADERSHIP EXPERIENCE

Bruin Project Management Initiatives | *Director of Campus Relations*   October 2020 – June 2021
- Initiated and assembled an advisory board for club development and student mentoring by interviewing and networking with over 30 professionals and UCLA alumni.
- Organized industry talks and advisory board member office hours to help UCLA students discover their academic and professional interests.

UCLA International Student Go Local Petition | *Chief Sponsor*   July 2020 - October 2020
- Proposed a dual-enrollment initiative that enables international students to study at UCLA's partner universities during the COVID-19 pandemic.
- Headed a 6-person team that advertised the initiative on social media; composed an open letter and petition to university administrators.
- Reached out to student organizations and achieved over 8,500 reads on a blog post partnered with CSSA, the largest international student organization at UCLA; gathered over 400 student signatures and over 145 parent signatures; received a personal reply and compliment from Adriana Galván, Dean of Undergraduate Education.

---

[1] S. Tong, S. L. Karackattu, M. J. Traum, "Deflategate: Classroom Thermophysics Investigation via Simultaneous Pressure and Temperature Measurement Inside a Football," American Institute of Aeronautics and Astronautics (AIAA) 2020 Scitech Forum, Orlando, FL, USA, January 6-10 2020 [ACCEPTED]