John Ong

Salt Lake City, UT • https://www.linkedin.com/in/john-ong/ • https://jong9559.github.io/

EDUCATION

B.S. in Mathematics with a Statistics Emphasis, Computer Science Minor *Aug 2021 – May 2025*
University of Utah Salt Lake City, UT

- GPA: 3.968/4.0
- Primary Coursework: Calculus III, Discrete Mathematics, Applied Statistics I, Foundations of Analysis, Intro to Probability, Linear Algebra, Intro to Algorithms and Data Structures, Modern Algebra, Statistical Inference

Diploma of Merit *Aug 2018 – Jun 2021*
Taylorsville High School Taylorsville, UT

- GPA: 4.0/4.0

EXPERIENCE

Station1 Frontiers Fellowship – Undergraduate Research Fellow *Jun 2023 – Aug 2023*

- Engaged in the philosophy of Socially Directed Science and Technology with over 50 assignments, readings, class experiments, a leadership camp, and a comprehensive professional development curriculum that allowed Fellows to understand the interactions between social sciences and STEM and prepare to solve real-world issues. (130 hours)
- Worked in conjunction with MDAnalysis and an undergraduate research intern.

MDAnalysis – Research Intern *Jun 2023 – Aug 2023*

- Conducted research with the guidance of mentors to extend MDAnalysis's interoperability with the PDB and compiled a history of the development of the PDB's supported data formats, including PDBx/mmCIF and legacy PDB files. Applied research skills to find, read, and conduct literary analyses of literature as it pertains to the PDB, molecular dynamics, structural biology, and computational chemistry. (320 hours)

University of Utah Pre-REU – Undergraduate Researcher *Jun 2022 – Jun 2022*

- Explored the field of dynamical systems and their subsequent relation to intervals between any two numbers over the course of 120 hours of classwork and lectures. Classwork included writing scratchwork and preparing proofs to fundamental theorems within the study of dynamical systems.
- Completed a capstone project focused on the conversion between dynamical systems and their inverses. (10 hours)

HONORS AND AWARDS

Michael Zhao Memorial Scholarship *Apr 2023*

- Awarded in memory of Michael Zhao, an outstanding undergraduate at the University of Utah who completed his honors degree in Mathematics in 2017.

PROJECTS

Interoperability *Jun 2023 – Aug 2023*

- Investigated the evolution of heterogeneity between objects in the Protein Data Bank (PDB) through literature and interviews that highlight motivations for changes in the PDBx/mmCIF and legacy PDB file formats. (320 hours)

Random Phrase Generator *Dec 2022*

- Pair-programmed a random phrase generator given a Context-Free Grammar(CFG) file which placed 39th out of 200 groups in execution efficiency which demonstrated excellence in application of data structures and algorithms. (30 hours)

Differentiability of Dynamical Systems *Jun 2022*

- Investigated the impact of differentiation on the dynamical system and its conjugate with two other groupmates. (40 hours)

Tower Defense Game *Apr 2022*

- Built an RTS-style tower defense game set at the Battle of Jena-Auerstedt, where you play Marshal Davout who oversees a small army corp against the might of the Prussian Army. (60 hours)

OTHER PROFESSIONAL QUALIFICATIONS

Web Development: HTML, CSS, JavaScript
Programming: Java, MATLAB, R**,** MIPS, Python
Public Speaking and Presentation
Microsoft Office: Word, PowerPoint, Excel
LaTeX