

Shipei Huang

<https://www.shipeihuang.com>

Email: shipeh@uw.edu

Mobile: 206-532-5639

EDUCATION

University of Washington, Seattle, WA

B.S./M.S. (Combined) in Bioengineering: Data Science Option (with Honors); GPA 3.80/4.0

Sep 2020 – Present

Bachelor of Science in Economics (with Honors); GPA:3.80/4.0

Sep 2020 – Jun 2025

SKILLS

Programming: Java, Python, MATLAB, Stata, Rstudio, Arduino, Machine Learning, Web Design (UI)

Modeling: COMSOL (Biophysics Simulation), SelfCAD (3D Printing), Computational Economics (MATLAB)

Wet Lab: Bio-quantification: Western Blotting, PCR; Imaging: Confocal Microscopy

RESEARCH EXPERIENCE

Independent BioEn Research (Honors B.S./M.S. Program; Fully Funded by Geng Lab) Feb 2024 – Present

Title: Teaching Fish to Learn: Building a Stimulus Arena for Zebrafish Conditioning Experiments

Supervised by Prof. Christopher Neils, Prof. Yijie Geng, and Prof. Wendy Thomas

- Developed an Arduino-based system for behavioral conditioning in zebrafish and a pipeline for automated data collection and data analysis of behavioral responses across training phases.
- Programmed in Arduino IDE (C++) for hardware control and Python for video tracking and data analysis; Built 3D modeling in SelfCAD

Independent Econ Research (Honors Thesis)

Mar 2024 – Jun 2025

Title: Urban Parking Decisions Under Emotion: A Game-Theoretic Approach

Supervised by Prof. Quan Wen

- Applied evolutionary game theory and Rank-Dependent Expected Utility (RDEU) modeling to examine and simulate emotional strategy dynamics between vehicle owners and enforcement officers in parking compliance.
- Focused on symbolic computation, numerical simulation, and stability analysis techniques in MATLAB to study the decision-making process of drivers and enforcement officers. Simulations proved that a small but positive patrol probability can sustain high levels of compliance

Research Assistant in Geng Lab (Full-time Summers; Part-time Academic Year)

Apr 2023 – Jun 2025

Projects: Brain Imaging; Proteins Quantification; Survival Analysis

Supervised by Prof. Yijie Geng, Alex He (Ph.D. student), and Dr. Ping Zhang

- Built a 3D digital atlas of the adult zebrafish brain using tissue clearing, antibody staining, and confocal microscopy
- Investigated zebrafish embryo tolerance to extreme G-force by applying graded centrifugal stress across developmental stages; conducted survival analysis and post-exposure drug screening to explore underlying molecular mechanisms

TEACHING EXPERIENCE

Teaching Assistant

Teaching assistant to Prof. Fabio Ghironi (Econ 401 & 425) - Holding review session for exams; Q&A session

Grader for Prof. Quan Wen (Econ 400) - Grading homework, quizzes, exams; Q&A

• **Econ 401 (Advanced Macroeconomics)**

Spring 2025

• **Econ 400 (Advanced Microeconomics)**

Autumn 2024, Autumn 2025

• **Econ 425 (Monetary Economics)**

Autumn 2024

CONFERENCE

Upcoming: [Western Economic Association International \(WEAI\) Conference](#) | Bangkok, Thailand Apr 2026

- My research on urban parking compliance under emotion was submitted and accepted by the 18th WEAI conference in which I will present and share research findings with academic and policy experts

WORK EXPERIENCE

- Applied Data Scientist Intern** | [Uwise Edu](#) | **Guizhou, China** Aug - Sep 2023
- Designed and launched an educational platform (front-end) delivering paid tutoring and free academic support to students.
 - Designed a content-based recommender system using matrix factorization to improve user retention and course enrollment by over 13.47%

SERVICES AND ACTIVITIES

- Undergraduate Peer Mentor** | [UW Neurobiology Club](#) | **Seattle, WA.** Spring 2023
- Advised prospective mentees exploring academic and research pathways in neuroscience. Led mentorship activities to foster inclusive engagement in STEM.
- Animals Rescue Volunteer** | [Panda Conservation Research Center](#) | **Sichuan, China.** Jun 2019
- Investigated the living habitats of wild panda; Earned - "Wild Animal Conservation Award" - for the contribution in panda conservation and research during the entire month
- STEM Competition Summer Camp** | [UNESCO](#) | **Hood College, Frederick, MD** Jun 2018
- Earned second place in a robotics programming competition organized by UNESCO (United Nations Educational, Scientific and Cultural Organization)