Raymond Xiong

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EDUCATION

Duke University, Durham, NC   May 2026
BS in Computer Science (AI & ML), BS in Statistical Science (Data Science), Minor in Linguistics

- GPA: 3.98 / 4.00
- Relevant Coursework: Graduate-level Theory & Algorithms for Machine Learning, Natural Language Processing, & Computer Vision; Data Structures & Algorithms; Design/Analysis of Algorithms; Intro to Database Systems; Bayesian & Modern Statistics; Japanese Sociolinguistics.
- Honors/Awards: Dean's List with Distinction (Top 10% of ~1,300) (2024 Spring & Fall); Meritorious Winner (Top 9% out of 11,296) in 2023 Mathematical Contest in Modeling (Apr. 2023)

PROJECT EXPERIENCE

Agrawal Lab, Duke Department of Computer Science, *Undergraduate researcher*, Duke   Nov. 2024 – Present

- Investigating response verifiability deficits in current-state large language model(LLM)-powered search engine systems to propose new architectures for medical AI
- Built automated pipelines for web scraping and evaluation using state-of-the-art techniques, including LLM-as-a-judge
- Publication accepted as a poster presentation on the 42nd International Conference on Machine Learning (Jul. 2025)

Zhuo Lab, Duke Department of Computer Science, *Undergraduate researcher*, Duke   Mar. 2024 – Present

- Created an end-to-end AI application to facilitate electronic health records data analytics for healthcare researchers; Product in the process of publishing to become a service to authorized Duke Medical School personnel
- Utilized OpenAI GPT-4 API to translate natural language prompts to SQL and visualization code; Boosted model performance to 419% by implementing state-of-the-art few-shot and chain-of-thought prompting methods
- Designed and developed user interface with JavaScript React and Observable Plot libraries
- Presented results in the Duke CS+ summer research program assembly meeting and poster session (Jul. 2024); Tested among contestants in the Duke Datathon by the Department of Medicine and received unanimous positive feedback (Apr. 2025)

Cogan Lab, Duke Department of Neurology, *Undergraduate researcher*, Duke   Sept. 2023 – May 2025

- Revamped intracranial electroencephalography data processing pipelines from Python to C to enhance efficiency
- Led the packaging and publishing of the pipelines as the IEEG package on PyPI

Dementia Care and Research Center, Peking University Institute of Mental Health, *Intern*, Beijing   Jun. 2023 – Jun. 2024

- Investigated the influence of the social convoy and urban-rural status on the improvement of depression
- Coded in Python to process data from a Chinese health database, construct models, create data visualizations, and present results
- Published paper on *International Psychogeriatrics*

National Key Laboratory of Cognitive Neuroscience and Learning, Beijing Normal University, *Visiting student researcher*, Beijing   Nov. 2019 – Sept. 2022

- Proposed study examining the relationship between cortical thickness and Alzheimer's patients' agitation. Secured funding from a national High School Science Talent Program; Conducted statistical testing in MATLAB
- Published paper on *Psychoradiology*

LEADERSHIP EXPERIENCE

Duke Department of Computer Science & Statistical Science, *Paid Undergraduate Teaching Assistant*, Duke   Jan. 2024 – Present

- Led discussion sections and office hours for 4 courses, including 1 graduate-level Natural Language Processing course and 3 undergraduate-level courses (Intro to Computer Systems, Statistical Learning & Inference, and Design/Analysis of Algorithms)
- Mentored over 100+ students to explain challenging concepts to majors and non-majors and help debug code
- Developed answer keys to assignments, including Python implementations of conditional random field models and Transformers
- Communicated regularly with professors, students, and other teaching assistants to ensure widespread availability

Duke Chinese Student Association, *President, Cultural VP & Chair (-Mar. 2024)*, Duke   Oct. 2022 – Apr. 2025

- Steered cultural integration and enhanced the impact of the community on campus by organizing cultural and social events with an average of 100+ attendances; advertised through multiple channels to attract more non-Asian attendees than in previous years
- Increased club funding by 60% during presidency
- Initiated to create a web application collecting student course evaluation feedback to promote community support

SKILLS & INTERESTS

Programming languages: Python (Pandas, Scikit-Learn, PyTorch), Java, C++, R, MATLAB; JavaScript, XML HTML/CSS
Database systems: Postgres, SQLite, Google BigQuery, DuckDB
Operating systems: Microsoft Windows, Linux/Unix
Languages: Native Mandarin, Fluent English, Proficient Japanese
Interests: Cooking, Tennis, Pickleball, Music