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

SKILLS

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

PROJECT EXPERIENCE

Duke Department of Computer Science, *Undergraduate researcher*, Duke   Mar. 2024 – Present
- Created an end-to-end AI application to facilitate electronic health record data analytics of healthcare researchers
- Utilized OpenAI GPT-4 API to translate natural language prompts to SQL and visualization code, and boosted model performance to 419% by implementing state-of-the-art few-shot and chain-of-thought prompting methods
- Designed and developed GUI with JavaScript React and Observable Plot libraries
- Presented results in program assembly meeting and poster session (Jul. 2024)

Cogan Lab, Duke Department of Neurology, *Undergraduate researcher*, Duke   Sept. 2023 – Present
- Revamped intracranial electroencephalography data processing pipelines from Python to C to enhance efficiency
- Packaged and published the pipelines on PyPI
- Contributed to lab meetings & journal clubs by collaborating with multiple groups to critique each other's work and discuss cutting-edge research literature

Dementia Care and Research Center, Peking University Institute of Mental Health, *Intern*, Beijing, CHN 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 China health database, construct models, create data visualizations, and present results
- Co-authored the final paper, currently in press

Duke Sports Analytics Club, *Analyst*, Duke   Oct. 2022 – May 2023
- Collaborated with three other analysts to investigate pitcher-hitter handedness matchups' influence on hitter success rates at different time periods in Major League Baseball; Utilized R to model pitch outcomes with multinomial logistic models
- Published report on the club website and presented results in general body meeting (Jan. 2023)

National Key Laboratory of Cognitive Neuroscience and Learning, Beijing Normal University, *Visiting student researcher*, Beijing, CHN   Nov. 2019 – Sept. 2022
- Proposed a study examining the relationship between cortical thickness and Alzheimer's patients' agitation. Secured funding from China High School Science Talent Program
- Processed MRI T1 weighted image data using the CIVET pipeline and 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 a discussion section and mentored over 100+ students in Intro to Computer Systems and Statistical Learning & Inference , including explaining challenging concepts to majors and non-majors and helping debug C & assembly code
- Coordinated office hours in conjunction with 13 other teaching assistants to ensure widespread availability and quick turnaround for tests and assignments

Duke Chinese Student Association, *President, Cultural VP & Chair (-Mar. 2024)*, Duke   Oct. 2022 – Present
- Steering cultural integration and enhancing the impact of the Chinese community on campus by organizing cultural and social events with an average of 100+ attendances

Duke Statistical Science Majors Union, *Communications Officer, Active Member (-May 2023)*, Duke   May 2022 – Sept. 2024
- Organized book-bagging information sessions, lunches with faculty and alumni panels to strengthen academic and social bonds within the undergraduate statistical science community