Ingrid Wu | Claremont, CA 91711 | iwu@g.hmc.edu | 706.388.9936

Education

Harvey Mudd College, Claremont, CA
B.S., Computer Science | Expected, May 2023
Cumulative GPA: 3.752; Major GPA: 3.888
Dean's List: Fall 2020, Fall 2021, Spring 2022

Relevant Coursework

Data Structure; Computability and Logic; Artificial Intelligence; Algorithms; Natural Language Processing; Computer System; Linear Algebra; Discrete Mathematics; Differential Equations; Fourier Series and Boundary Value; Probability & Statistics; Quantum Information; Quantum Mechanics; Quantum Physics; Statistical Mechanics; Engineering Systems; Programming Language; Reinforcement Learning; Intermediate Probability; Operations Research; Quantum Theory.

Research Experience

Researcher, Computer Science Department, Claremont, CA 8/22–present
Robot Ethics

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Researcher, Computer Science Department, Claremont, CA 8/22–present
Categorizing Challenges Faced in Text Mining Projects

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Researcher, Computer Science Department, Claremont, CA 5/22–present
Explored new techniques facilitating human robot improvisational teamwork | Three-person team

- Captured the human uncertainty due to inherent irrationality in improvisational teamwork and modeled human behaviors with more realistic distributions that are less studied in PSTNS.
- Discovered a new formalism that overlays the representation of uncontrollable agents in the simple temporal network-improvisational teamwork(STN-IT) that captures and unifies their unexpressed preferences, constraints, and tendencies.
- Developed methods to learn the human uncertainties iteratively and using reinforcement learning, and updatthe network structure accordingly.
- Proposed two techniques to bound the boundless distributions self-adaptively to expand the scope of the algorithms of probabilistic simple temporal network under dynamic controllability.

Researcher, Computer Science Department, Claremont, CA 5/21–5/22
Improved a web-based topic modeling tool(tsLDA) to help users with text analysis | four-person team [pdf]

- Redesigned UI with React to make tsLDA more user-friendly based on workflows found from user interviews conducted previously.
- Implemented more user intuitive features including interactive treeMap, interactive metadata charts, search, etc based on workflow analysis and users' needs. (TypeScript, HTML, CSS)

- Changed the existing code base from JavaScript to TypeScript with one other researcher to resolve a majority of server errors.
- Designed and conducted new user studies with one other researcher based on movie data to investigate whether tsLDA is helpful for people without CS background to process topic modeling on and analyze text corpus.

Work Experience

Clinic, Computer Science Department, Claremont, CA 9/22–present

Shielding NLP models from Adversarial Attacks for Proofpoint Inc. | Five-person team

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Software Developer, Interactive Plus, Shanghai, China

Student organization offering net services for web developments | twelve-person team 7/21-10/21

- Designed and implemented the database for single sign-on and authentication. (TypeScript, MySql)

Software Developer, Zhiyun Tech, Chengdu, China 6/20-9/20

Student startup building a third-party platform for students looking to studying abroad finding advising organizations | six-person team

- Led a team of 3 developing a Wechat app using the MINA framework. (WXML, WXSS, JavaScript)
- Improved website full-stack with a four-person team to provide more services and stabilize the back end code base with the Laravel framework. (PHP, HTML, CSS, JavaScript, Vue)
- Modified the database to support data transmission for new features and data. (PHP, MySql)
- Implemented GitHub continuous integration test and local unit tests for the project. (npm, node.js)

Tutor and Grader, Claremont, CA 8/21–present

- Graded and tutored for the Computer Science Department on courses of Natural Language Processing, Introduction to Computer Science, and Algorithms.
- Graded for the Physics Department for physics lab on experiments relevant to modern technology through hands-on experience, experimental design, and data analysis.

Publications

- R. Chen, E. Ma, **I. Wu**, and James Boerkoel, “New Techniques Facilitating Human Robot Improvisational Teamwork ” in Southern California Robotics Symposium, 2022.

Skills

C/C++, C#, Java, Python, PHP, MySql, HTML, TypeScript, CSS, Racket, Qiskit, Gurobi, Scikit, MATLAB, LaTex, R Tracker(for graphic analysis)

Extracurricular

- Participate in Correlation One coding competition 2021, 2022
- Dance Community from 2019, hold classes for students interested in dance.
- Film Gender’s Influence on Patronizing Language in Movie Reviews, analyzed the impact of hateful speech in pop culture from an NLP perspective. 2021

- Robot Programming, helped RaceCar group from MIT formulate an introduction level of robot programming class for high school students. 2020
- I^3 organization?

Questions

1. **Can we showcase unpublished works and course thesis under the publication section?**
2. The top-2 research experiences and the first work experience will be implemented in the future (since they're just started this semester)
3. Should we fit the resume into 2 pages (by deleting some of the content)? Or just use a 3-page version?
4. Is it a good idea to start an organization about tech ethics? Our school has such opportunities recently
5. Is the personal statement (and other essays such as diversity statement) included in the essay editing process? What's the essay editing process like?