Joyce Zhou

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Education

2019 – · · · · ▷ **M.S., University of Washington Seattle** - Computer Science
Advisor: Prof. Dan Weld
Cumulative GPA 3.86 / 4.0
Highlighted Coursework: Natural Language Processing, Adv. Topics in Human-Computer Interaction, Operating Systems, Computer Security,

2016 – 2019 ▷ **B.S., University of Washington Seattle** - Computer Science, minor Mathematics
Thesis: *Finding and evaluating RNA motifs with CMfinder* [2].
Advisor: Prof. Larry Ruzzo
Cumulative GPA 3.94 / 4.0, *magna cum laude*
Highlighted Coursework: Machine Learning, Software Design & Implementation, Data Structures & Parallelism, Data Visualization, Algorithms, Databases, Systems Programming, Computational Biology
Started 2 years early through the Robinson Center Academy program.

Research Experience

2020 – · · · · ▷ **Graduate Researcher** with Prof. Elena Glassman and Prof. Dan Weld.
Currently developing an aggregation and visualization method for CS research paper abstracts.

2019 – · · · · ▷ **Graduate Researcher**, Lab for Human-AI Interaction
Mentored by Gagan Bansal and advised by Prof. Dan Weld.
Developed, implemented, and evaluated a novel adaptive explanation style for human-AI teams on a sentiment analysis task. Analyzed participants' feedback on how AI explanations impacted their decision-making.
Resulted in joint 2nd-author publication and submission to CSCW [1]. Also featured in a WHI 2020 spotlight.

2018 – 2019 ▷ **Undergraduate Researcher** with Prof. Larry Ruzzo
Developed a set of tools (*blockmerge* and *crosscompare*) and a pipeline centered on CMfinder to search for potentially structured fRNA sequences across alignment block boundaries and cluster found covariance models.
Wrote up methods and findings in Bachelor's thesis [2].

▷ **Undergraduate Researcher** with Prof. Emily Pahnke (Foster School of Business, UW)
Collected, organized, and cleaned data from a diverse range of websites (social media, blogs, business homepages) to form an original data set.

Teaching Experience

2018 – 2019 ▷ **Teaching Assistant**, University of Washington
Taught sections of 20+ students and assisted individual students in office hours.
Wrote and reviewed course handouts, homework, and exams.
Graded student programming assignments and exams.
5 quarters of TA experience:
2019 AU: CSE374 Programming Tools & Concepts (Tyler Pirtle)
2019 SP: CSE369 Introduction to Digital Design (Justin Hsia)
2019 WI: CSE369 Introduction to Digital Design (Justin Hsia)
2018 AU: CSE331 Software Design & Implementation (Prof. Mike Ernst)
2018 SU: CSE331 Software Design & Implementation (Leah Perlmutter)

2018 ▷ **Volunteer study group leader**, University of Washington
Reviewed concepts taught in class with students.
2018 SP: CSE351 The Hardware/Software Interface

2017 ▷ **Private tutor**
Taught concepts in introductory Java programming to CS students outside of UW.

Skills

Languages (Code)	▷ Experienced: Java, Python Familiar: C, C++, JavaScript, HTML/CSS, Bash Interests: SQL, Haskell, LaTeX
Tools/Frameworks	▷ Experienced: Git, AllenNLP, Gensim Familiar: PyTorch, Transformers, D3, sklearn Interests: Java Swing, Jekyll
Languages (Natural)	▷ English, spoken Chinese (Shanghainese and Mandarin), some Spanish
Misc.	▷ Plushie-making hobbyist

Publications

** denotes equal contribution*

Pre-prints

[1] G. Bansal*, T. Wu*, **J. Zhou**, R. Fok, B. Nushi, E. Kamar, M. T. Ribeiro, and D. S. Weld, "Does the whole exceed its parts? the effect of AI explanations on complementary team performance", Submitted to CSCW, abridged version presented in WHI spotlight, 2020, [Online]. Available: https://arxiv.org/abs/2006.14779.

Theses

[2] **J. Zhou** and L. Ruzzo, "Finding and evaluating RNA motifs with CMfinder", Bachelor's thesis, Paul G. Allen School of Computer Science & Engineering, University of Washington, 2019. [Online]. Available: https://cephcyn.github.io/pub/2019-bachelors_thesis-Finding_and_evaluating_RNA_motifs_with_CMfinder.pdf.

Miscellaneous

Awards and Achievements

2018 ▷ **Phi Beta Kappa**, honor society, top 10%, focus on liberal arts and sciences.

2016-2018 ▷ **Dean's List**, awarded for high quarterly GPA.
Obtained Quarterly Dean's List for 7 quarters, Annual Dean's List for 2 years.

Certifications

2018 ▷ **Oracle Certified Professional Java SE 8**.

2017 ▷ **Oracle Certified Associate Java SE 8**.

Selected Projects

2019 – · · · ·

- **Paper replication: Reddit post clustering** (on GitHub)
  Class project (CSE517 Natural Language Processing), research project, group project
  Relevant skills: Python, Jupyter Notebook, word2vec, LDA, BERT, Reddit post scraping, data cleaning
  Designed and implemented a replication of a published research paper. We scraped thousands of new posts from Reddit and conducted a comparison between different clustering methods, including methods based on word2vec, LDA, and BERT.
  Paper write-up and presentation are available. Also being edited for submission to ReScience C journal.

2020

- **"Examining Context-Aware Explanations for Recommender Systems"**
  Class project (CSE510 Adv. Topics in Human-Computer Interaction), research project, group project
  Relevant skills: user research, interview analysis
  Interviewed students about their experiences finding research papers, as well as their thoughts on different styles of explanations from paper recommendation engines.
  Paper write-up is available.

2019

- **"Access, Period" product design**
  Class project (CSE440 Human-Computer Interaction), group project
  Relevant skills: product design, user research
  "Access, Period" product design focused on making menstrual products accessible for all, targeted specifically at homeless women in Seattle. The product concept is a phone app linked with a system of donation/pickup boxes located in public restrooms.
  Won "Most Innovative Solution" across the entire class!

- **"A Computational Method of Bias Reduction in Allele-Specific Expression Analysis"**
  Class project (CSE428 Computational Biology Capstone), research project, group project
  Relevant skills: Bash, Python, Java, NCBI Genome resources
  Designed and implemented a pipeline analysis using *seqbias* to correct for RNA mapping count biases when evaluating allele-specific expression of different genetic sequences.
  Paper write-up and presentation are available.

2018

- **"Divided Congress & Coverage" visualization** (viewable online)
  Class project (CSE442 Data Visualization), group project
  Relevant skills: JavaScript, D3, data cleaning
  Designed, collected data for, implemented, and presented a set of visualizations together with commentary examining biases in news coverage between CNN, MSNBC, and Fox News on topics related to the 2016 U.S. presidential election.
  Won "Best In Show" across the entire class!