Ruijia (Regina) Cheng

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Education

09/18 - present	**University of Washington (UW)** PhD student in Human Centered Design & Engineering (HCDE)
06/18	**University of California, San Diego (UCSD)** *Magna Cum Laude* BS Cognitive science with a specialization in computation BS Mathematics/applied science

Graduate Research Projects

UW HCDE

11/18- present	**Feedback-seeking in online fanfiction communities** *advised by Cecilia Aragon, Gary Hsieh* Studying fanfiction authors' obstacles and strategies in feedback-seeking practice • Designed interview study with another student • Recruited interviewees and conducted 29 semi-structured interviews with fanfiction authors • Used Ground Theory methods to thematically code and analyzing interview data
09/18- present	**Sentiment classification on online learning feedback** *advised by Cecilia Aragon* Studying usage of sentiment classifier ALOE on comments from fanfiction.net • Led a group of students qualitatively code 3500+ fanfiction comments • Calculated interrater reliability metrics; held weekly discussion sessions for interrater reliability • Transferred qualitatively coded feedback to training and testing dataset

Undergraduate Research Projects

UCSD Design Lab

11/16- 10/17	**Problem framing** *advised by Steven Dow, Joel Chan(CMU)* Studied effects of problem framing on distributed collaborative design • Designed surveys for frame collection and evaluation • Collaborated in designing experiments and interface for crowd idea generation • Qualitatively and quantitatively analyzed survey and online experiment data • First author of resulting working paper (See publication section)
07/17- 12/17	**Narrative scientific computing** *advised by Jim Hollan, Adam Rule* Studied narrative features in scientific data analysis on a large scale of Jupyter notebooks • Contributed to paper Exploration and Explanation in Computational Notebooks (Honorable Mention in CHI 2018) • Scraped, cleaned, and conducted semantic mining among 1.5 million notebooks and metadata from GitHub using Python • Qualitatively analyzed narrative features in notebooks and metadata • Designed user-participated design workshops for Jupyter notebooks extensions

Jupyter notebook for education project *advised by Jim Hollan, Adam Rule*

03/17-   Studied how students use Jupyter notebooks to study data science

06/17   • Conducted interviews & observation studies about Jupyter notebook usage in class for 3 months
   • Qualitatively analyzed observational data using affinity diagrams and quantitatively analyzed survey data using descriptive statistics
   • Designed and Developed JavaScript extension for import history on Jupyter Notebook

UCSD Cognitive Neuroscience Lab

01/16-   **EEG neurofeedback project** *advised by Jaime Pineda, Fiza Singh*

12/17   Studied Effects of EEG-Gamma neurofeedback on working memory in schizophrenia (SCZ)
   • Fine-tuned machine learning models (linear classification, SVM, random forest); designed and executed classification experiments using Matlab
   • Ran neurofeedback training sessions and collected EEG data on SCZ patients;
   • Performed prepreprocessing, ICA and power analysis on EEG data using EEGLab in Matlab

Publications and Conferences

1. **Cheng, R.**, De Castro, J., Dow, S., Chan, J. (2017) An exploratory study of problem framing in distributed collaborative design *working paper in 2018 ACM GROUP conference*

2. Singh, F., Smith, A., Dudeck, N., Herrera, E., Lee, J., Yang, Z., **Cheng, R.**, Pineda, J. (2016) A pilot study to assess the effects of EEG-Gamma neurofeedback on working memory in schizophrenia patients. *Poster presented at Society for Neuroscience(SfN) 2016 annual conference*

Design Projects

09/18-   **Flappy Band** leading UX researcher in a team of 4 graduate students

12/18   Cartoon voice-controlled wearable for K-12 student-teacher out-classroom communication
   • Interviewed and observed 20+ 1st and 2nd graders; interviewed 5 teachers
   • Brainstormed and Sketched 20+ ideas; Build paper prototypes
   • Ran usability tests on 5 students and 3 teachers using paper prototype
   • Built high-fidelity 3D-printed prototype and video-prototype

09/16-   **Plug-n-talk** leading UX researcher in a team of 8 undergraduate students

06/17   ios app prototype as a cheaper alternative to current hearing aids *UCSD Design for Senior Citizens*
   • Conducted 20+ hour observation at a retirement community; interviewed 8 seniors; 5 month ethnographic study with a senior community member
   • Built storyboards; held brainstorming sessions with seniors
   • Built low-fidelity wizard-of-oz prototype and ran usability test with it
   • Resulted in a working app that reduces noise and adjusts frequency in real-time conversations

Skills

Qualitative methods: interview; field observation; persona; storyboarding; usability test; qualitative coding

Quantitative methods: survey design; A/B testing; statistical modeling

Prototyping and design: Sketch, Photoshop

Data science: Python, Matlab, R, SQL; machine learning

Software development: Python, HTML, CSS, JavaScript

Services

2019	UW HCDE master application reviewer
2019	ACM CHI 2019 Late Breaking Work reviewer