

# Ruijia (Regina) Cheng

rcheng6@uw.edu | <https://reginachangzhou.github.io>

## Education

- 09/18 - **University of Washington (UW)**  
 present 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 HDS lab*

- 11/18- **Feedback-seeking in online learning communities** *advised by Gary Hsieh*  
 present Studying fanfiction authors' obstacles and strategies in feedback-seeking practice
- Designed interview study with another student
  - Recruited interviewees and conducted 30 semi-structured interviews with fanfiction authors
  - Used Ground Theory methods to thematically code and analyzing interview data
- 09/18- **Sentiment classification on online learning feedback** *advised by Cecilia Aragon*  
 present 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- **Problem framing** *advised by Steven Dow, Joel Chan(CMU)*  
 10/17 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- **Narrative scientific computing** *advised by Jim Hollan, Adam Rule*  
 12/17 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

- 03/17- **Jupyter notebook for education project** *advised by Jim Hollan, Adam Rule*
- 06/17 Studied how students use Jupyter notebooks to study data science
- 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 preprocessing, 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+ 1<sup>st</sup> and 2<sup>nd</sup> 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