

# Matthew Jörke

## EDUCATION

**Stanford University** // Sep 2020-Present  
PhD, Computer Science

**University of California, Berkeley** // Aug 2015-Dec 2019  
BA, Computer Science & Cognitive Science

**HfG Schwäbisch Gmünd** // Feb 2019-Jul 2019  
Exchange semester in Interaction Design

## RESEARCH EXPERIENCE

**Natural Language Processing** // Aug 2019-Present  
School of Information, UC Berkeley

- ▶ Working with David Bamman on attention-based methods for semi-supervised sequence labeling tasks
- ▶ Exploring models and techniques to incorporate document-level context during sentence-level prediction
- ▶ Training and evaluating BERT variants on several named-entity recognition datasets

**Human-Computer Interaction** // Feb 2018-Feb 2019  
Hyrid Ecologies Lab, UC Berkeley

- ▶ Co-authored «Hybrid Microgenetic Analysis» (presented at C&C 2019) with César Torres
- ▶ Developed and published the analysis/visualization suite eluent
- ▶ Generated visualization graphics and designed figures for the final submission
- ▶ Researched DTW clustering & pattern mining techniques to improve performance and accuracy

**Cognitive Neuroscience** // Mar 2017-May 2018  
D'Esposito Lab, UC Berkeley

- ▶ Worked with human subjects in fMRI, EEG, and TMS experiments
- ▶ Performed artifact removal (MATLAB) for EEG cognitive control experiments and combined TMS/fMRI working memory experiments

## PUBLICATIONS

- ▶ **Matthew Jörke**, Jon Gillick, Matthew Sims, David Bamman. 2020. Attending to Long-Distance Document Context for Sequence Labeling. *Findings of EMNLP 2020 (to appear)*.
- ▶ César Torres, **Matthew Jörke**, Emily Hill, & Eric Paulos. 2019. Hybrid Microgenetic Analysis: Using Activity Codebooks to Identify and Characterize Creative Process. *In Proc. of Creativity & Cognition 2019*.

## CONTACT

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## INDUSTRY EXPERIENCE

**Deep Learning Intern** // May 2018–Aug 2018  
Lighthouse AI, Palo Alto

- ▶ Modified speech recognition CNN architectures (PyTorch) for audio classification
- ▶ Implemented novel embedding re-ranking metrics (Tensorflow) to improve person re-identification accuracy
- ▶ Developed visualization tools to diagnose misclassified images/videos

## TEACHING EXPERIENCE

**Teaching Assistant** // Jan 2020–May 2020

- ▶ INFO 159 (Natural Language Processing)

## AWARDS & HONORS

### **EECS Honors Program**

- ▶ Departmental honors with a concentration in Cognitive Neuroscience

### **College of Letters & Science Dean's Honors List**

- ▶ Awarded to top 10% of L&S undergraduates each semester

### **Kraft Award for Freshman**

- ▶ Stipend awarded to incoming freshmen who receive a 4.0 in their first semester

## RELEVANT COURSEWORK

### **Computer Science**

Machine Learning / Artificial Intelligence / Data Science / Algorithms / Probability & Statistics / Optimization Theory / Natural Language Processing / UI Design & Development

### **Cognitive Science**

Brain Evolution / Cognitive Neuroscience / Linguistics / Philosophy of Mind / Perception / History of Information / Stigma & Prejudice