

Paxton Fitzpatrick

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EDUCATION

Dartmouth College, Hanover, NH

2015 – 2019

Bachelor of Arts:

Neuroscience with Honors

Honors Thesis:

*Capturing the evolving geometric and neural
Structures of experiences and memories*

RESEARCH EXPERIENCE

Contextual Dynamics Lab, Hanover, NH

March 2017 –

Lab Manager

June 2018 –

- Design, conduct, analyze, and publish novel studies on human memory
- Develop and maintain multiple open-source software tools
- Assist in writing grant applications, study protocols, and annual reports
- Train other lab and department members on software tools and research practices

Research Assistant

March 2017 – June 2018

- Collected and analyzed human subject data for multiple projects
- Co-authored multiple research articles and software packages
- Presented research at local and international conferences
- Assisted in maintaining lab computing environment

Bregman Media Labs, Hanover, NH

March 2017 – July 2017

Research Assistant

- Developed pipeline for wireless translation of EEG data to real-time audio synthesis
- Co-created the first direct brainwave sonification-based musical ensemble
- Created interactive EEG-driven “paint your brain” exhibit
- Maintained software package for audio-visual feature extraction and analysis

Dartmouth Brain Imaging Center, Hanover, NH

September 2016 – June 2019

Research Assistant

- Operated Siemens Prisma 3T fMRI scanner and periphery equipment (100+ hours)
- Designed stimuli for imaging and behavioral experiments
- Created automated pipelines for data processing and BIDS formatting

PUBLICATIONS & PRESENTATIONS

Manuscripts

Heusser A. C. [†], **Fitzpatrick P. C.** [†], Manning J. R. (2021). Geometric models reveal behavioural and neural signatures of transforming experiences into memories. *Nature Human Behaviour*. doi:10.1038/s41562-021-01051-6.

[†]Denotes equal contribution

Ziman K., Heusser A. C., **Fitzpatrick P. C.**, Field C. E., Manning J. R. (2018). Is automatic speech-to-text transcription ready for use in psychological experiments?. *Behavior research methods*, 1-9.

Heusser A. C., **Fitzpatrick P. C.**, Field C. E., Ziman K., Manning J. R. (2017). Quail: a Python toolbox for analyzing and plotting free recall data. *The Journal of Open Source Software*, 2(18): 424.

Software

Heusser A. C., Ziman K., **Fitzpatrick P. C.**, Field C. E., Manning J. R. (2017) AutoFR: a scalable verbal free recall experiment with automatic speech-to-text transcription. GitHub.

Heusser A. C., **Fitzpatrick P. C.**, Field C. E., Ziman K., Manning J. R. (2017) Quail: a Python toolbox for analyzing and plotting free recall data. GitHub.

Talks

Fitzpatrick P. C. (2020). Web-based behavioral experiments for online data collection. *EPSCoR Attention Consortium meeting*, (virtual).

Abstracts & Poster Presentations

Fitzpatrick P. C., Heusser A. C., Manning J. R. (2019). Exploring the evolving geometric structure of experiences and memories. *Society for Neuroscience Annual Meeting*. Chicago, IL.

Fitzpatrick P. C., Heusser A. C., Manning J. R. (2019). Capturing the evolving geometric and neural structures of experiences and memories. *Wetterhahn Science Symposium*. Hanover, NH.

Fitzpatrick P. C., Heusser A. C., Manning J. R. (2018). Mapping between naturalistic experience and verbal recall. *Society for Neuroscience Annual Meeting*. San Diego, CA.

Heusser A. C., **Fitzpatrick P. C.**, Manning J. R. (2018). Capturing the geometric structure of our experiences and how we remember them. *Conference on Cognitive Computational Neuroscience*. Philadelphia, PA.

Fitzpatrick P. C., Ziman, K., Heusser, A. C., Field, C. E., Manning, J. R. (2018). The utility of speech-to-text software for transcription of verbal response data. *Wetterhahn Science Symposium*. Hanover, NH.

Lee M., Chacko R., Whitaker E., **Fitzpatrick P. C.**, Field C. E., Ziman K., Bollinger B., Heusser A. C., Manning J. R. (2018). Adaptive free recall: Enhancing (or diminishing) memory. *Wetterhahn Science Symposium*. Hanover, NH.

Ziman K., Heusser A. C., **Fitzpatrick P. C.**, Field C. E., Manning J. R. (2018). Is automatic speech-to-text transcription ready for use in psychological experiments?. *Context and Episodic Memory Symposium*. Philadelphia, PA.

AWARDS & HONORS

<i>Methods in Neuroscience at Dartmouth (MIND) attendee</i>	July 2019
<i>Lt. William Brewster Nickerson 1964 Psychology and Brain Sciences Prize</i>	May 2019
<i>Robert N. Leaton Prize for Best Neuroscience Thesis</i>	May 2019
<i>Sigma Xi Scientific Research Honors Society, Associate Member</i>	May 2019
<i>Dartmouth Academic Skills Center Tutor Spotlight award</i>	March 2019
<i>Undergraduate Research Senior Conference Grant award</i>	August 2018
<i>Citation for Meritorious Performance – Systems Neuroscience with Laboratory</i>	May 2018

TEACHING & MENTORSHIP

<i>Storytelling with Data (TA)</i>	Spring 2020
<i>Intro to Programming for Psychological Scientists (TA & Guest Lecturer)</i>	Winter 2020, 2021
<i>Human Memory (TA)</i>	Fall 2019
<i>Intro to Programming and Computation (Private Tutor)</i>	Fall 2018 – Spring 2019
<i>Research Mentees</i> William Baxley, Shane Park, Chelsea Uddenberg, Esme Chen, Tehut Biru	

PROFESSIONAL ACTIVITIES

<i>Ad hoc reviewer: Journal of Open Source Software</i>	2020
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SERVICE

Storytelling with Data Social Impact Practicum	March 2019 – June 2019
<i>Data Analyst and Presenter</i> <ul style="list-style-type: none">• Compiled and analyzed historic donation data for the Upper Valley Land Trust• Modeled future trends in donor behavior, retention, and solicitation efficacy• Delivered recommendations on focusing and refining advertising to UVLT directorate	
Neuromarketing Social Impact Practicum	January 2019 – March 2019
<i>Data Analyst and Presenter</i> <ul style="list-style-type: none">• Co-created improved monthly newsletter for Hartford Autism Regional Program• Collected and analyzed biometric data to evaluate and optimize newsletter design• Prepared, presented, and delivered product redesign and findings to HARP Director	
Oxfam Club at Dartmouth	September 2016 – September 2018
<i>President and Co-founder</i> <ul style="list-style-type: none">• Founded and managed chapter of international NGO focused on socioeconomic injustice	

- Organized silent auction that raised over \$8,000 for local and regional refugee groups
- Brought speakers to campus to hold discussions on topical issues of social inequality