

# Felix Pei

✉ felp8484@gmail.com | 🌐 felixp8 | 📄 Felix Pei

## INTERESTS

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Computational neuroscience, probabilistic machine learning

## EDUCATION

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### Georgia Institute of Technology

Atlanta, GA

Bachelor of Science in Electrical Engineering, GPA: 4.0/4.0

Aug 2019 – May 2023

Minor in Computing & Intelligence

Outstanding EE Senior Award, School of Electrical & Computer Engineering

## RESEARCH EXPERIENCE

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### MackeLab, University of Tübingen

Tübingen, Germany

Research intern, PI: Dr. Jakob Macke

November 2023 –

- Contributing to research studying fly visual system with connectome-constrained deep neural network models

### Systems Neural Engineering Lab, Emory University

Atlanta, GA

Undergraduate research assistant, PI: Dr. Chethan Pandarinath

May 2020 – October 2023

- Co-led project on benchmarking latent variable models of neural population spiking activity.
- Explored application of group-equivariant neural network architectures for neural data modeling

## PUBLICATIONS

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**Pei FC\***, Ye J\*, Zoltowski DM, Wu A, Chowdhury RH, Sohn H, O'Doherty JE, Shenoy KV, Kaufman MT, Churchland M, Jazayeri M, Miller LE, Pillow J, Park IM, Dyer EL, and Pandarinath C (2021). "Neural Latents Benchmark '21: Evaluating latent variable models of neural population activity". In: *Advances in Neural Information Processing Systems (NeurIPS), Track on Datasets and Benchmarks*. URL: <https://arxiv.org/abs/2109.04463>.

\*equal contribution

## INDUSTRY EXPERIENCE

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### CatalystNeuro

Benicia, CA

Neurodata Programmer

May 2023 – October 2023

- Remote part-time position, assisting neuroscience research labs in preparing data for publication in standardized data formats and contributing to open-source software tools to promote reproducibility, data reuse and open science

### Apple Inc.

Cupertino, CA

Design Verification Engineering Intern

May 2022 – August 2022

- Developed tests for display subsystem of upcoming SoC, collaborating with designers to ensure coverage and debug test failures, identifying hardware bugs, potential security flaws, and testbench issues

## Intel Corporation

Folsom, CA

Firmware Development/Validation Engineering Intern

May 2021 – December 2021

- Enhanced SSD firmware testing framework with more flexible randomization schemes and adapted firmware interfaces for new testing environment

## TALKS & PRESENTATIONS

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**Invited Talk.** “Modeling neural population dynamics and evaluating model fit with LFADS and NLB”. NeuroDataReHack 2022. Allen Institute, Seattle, WA.

**Blitz Talk & Poster.** “NLB’21 Benchmark Suite: Curated data for general evaluation of neural latent variable models”. Open Neurodata Showcase 2022. Virtual.

**Poster Presentation.** “Neural Latents Benchmark ’21: Evaluating latent variable models of neural population activity”. NeurIPS 2021. Virtual.

**Poster Presentation.** “Advancing the investigation of neural population structure with the Neural Latents Benchmark”. SfN 2021. Virtual.

## SKILLS

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Programming	Python*, MATLAB, C, C++, Java, Bash
Data Science / ML	numpy*, scipy, pandas*, matplotlib*, scikit-learn*, PyTorch*
Miscellaneous	L <sup>A</sup> T <sub>E</sub> X, Adobe Illustrator, Word, PowerPoint, Excel

\*proficient

## REFERENCES

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### Chethan Pandarinath

Assistant Professor, Biomedical Engineering  
Emory University/Georgia Institute of Technology  
HSRB E104, 1760 Haygood Drive NE  
Atlanta, GA, 30332  
(404) 727-2851  
[chethan@gatech.edu](mailto:chethan@gatech.edu)

### Eva Dyer

Assistant Professor, Biomedical Engineering  
Georgia Institute of Technology  
UAW 3108, 313 Ferst Drive  
Atlanta, GA, 30332  
(404) 894-4738  
[evadyer@gatech.edu](mailto:evadyer@gatech.edu)