Nicholas Ornstein

CONTACT INFORMATION

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Northwestern University, Evanston, IL
PhD in Technology and Social Behavior — In progress, began September 2025
(Dual degree in Computer Science and Communication)

The University of Chicago, Chicago, IL
B.Sc. in Neuroscience with Honors, *cum laude*; GPA: 3.83/4.00 — June 2021
Minor in Media Arts and Design

HONORS AND AWARDS

Fulbright Research Scholarship (Germany Research award, 13%)	2021
Neuroscience Honors Summer Research Award	2020
Quantitative Biology Summer Fellowship	2019
College Summer Institute Fellowship in the Arts and Humanities	2019
National Merit Scholar (0.25%)	2017

RESEARCH EXPERIENCE

LINK Lab and Mind and Technology Lab, Northwestern University
Graduate Student Researcher — September 2025-Present

- Advised by Professor Agnes Horvat and Professor William Brady

Human Centered Ubiquitous Media Group, LMU Munich, Germany
Fulbright Scholar, Research Associate — October 2021 - September 2022

- Advised by Professor Albrecht Schmidt and Professor Lewis Chuang
- Engineered electrical muscle stimulation systems that interface with and actuate the user's hand and arm
- Investigated the potential of electrical muscle stimulation for motor learning in the context of musical rhythms via a user study
- Developed control software, text interface, and conducted analyses in Python

Bensmaia Lab, The University of Chicago
Research Associate — October 2018 - August 2021

- Designed and fabricated physical models of texture perception using silicone gels
- Conducted data analyses by developing algorithms to characterize texture profile data
- Accepted to the Neuroscience Honors Cohort; wrote thesis 'Investigating the neuro-mechanics of texture perception using a gel elastomer'
- Presented findings at the Society for Neuroscience conference in 2021

College Summer Institute in the Arts, Humanities, and Social Sciences, UChicago
Research Associate — June 2019 - August 2019

- Studied the philosophy of AI to address the requirements for computational creativity
- Authored final paper arguing for expertise as a requirement for artistry, presenting at final symposium, published in undergraduate research proceedings

Kaplan Lab, Biomedical Engineering Dept, Tufts University, Medford, MA

InSPIRE Intern and Research Assistant June 2016 - August 2016

- Advised by Professor David Kaplan, I worked on a library of silk-elastin-like-proteins and related biomaterials.

Conference Presentations & Publications (only lightly peer-reviewed)

Ornstein, N.B. Immersive Virtual Reality and the Child's Well-being, In: Rainer J. Kaus, Hartmut Günther, Kinder und Jugendliche in der Krise (pp. 187-218). Bielefeld: transcript Verlag.
[Edited Volume], [Paper]

Ornstein, N.B., Villa, S., Lopes, P., Chuang, L.L. Electrical muscle stimulation to improve temporal precision during rhythm learning. Presented at the *Intelligent Musical Interfaces Workshop, ACM CHI 2022*, New Orleans, LA
[Workshop Paper], [Slides]

Ornstein, N.B., Greenspon C.M., Bensmaia, S.J. Using a gel elastomer to characterize the neuromechanics of texture perception. Presented at the *Society for Neuroscience, 2021* (virtual)
[Undergrad Thesis], [Slides], [Video], [Code]

Ornstein, N.B. Expertise without experience: can computers be artists? *The University of Chicago Undergraduate Research Symposium 2020 Online Proceedings*
[Paper]

Panel/Speaking Experience

Speaker, Wellesley College Human-Computer Interaction Lab, (March, 2022) – Electrical muscle stimulation to improve temporal precision during rhythm learning

Panelist, College Center for Research and Fellowships, UChicago (January 2022) – An Introduction to the Fulbright Scholarship

Speaker, The NEURO Club, UChicago (March 2021) – An Introduction to Techniques in Computational Neuroscience

Panelist, College Center for Research and Fellowships, UChicago (March 2021) – Preparing a Fulbright Scholarship Application

Work Experience

Eastern Research Group, Remote
Analyst January 2025 - September 2025

- Technical consultant to projects for federal agencies such as the Environmental Protection Agency
- Conducted web scraping to identify illegal pesticides on online marketplaces
- Scraped railroad fan train data and built database to inform EPA monitoring of small rail emissions

Amazon, Munich, Germany
Research Data Analyst, Analytics & Insights, Ads December 2022 - July 2024

- Developed, maintained, and automated ETL pipelines using SQL (Redshift)
- Handled insight requests, scoped projects and analyzed advertising data in Python to deliver insights
- Launched new report modules for telecommunications clients influencing >€2.8M revenue, delivered to sales stakeholders across Europe; modules then scaled cross-vertical
- Collaborated on the design and implementation of a predictive audience system, using gradient boosting techniques to predict whether a shopper was likely to purchase from a given category

UChicago TechTeam (student org), Chicago, IL
Chair of Internal Projects, Deputy Chair of Client Relations October 2018 – June 2021

- Conducted technical consulting projects for non-profits on the South Side of Chicago

- Oversaw client comms, project leader and member recruitment, organized novel client database

MealFlour (social enterprise), Quetzaltenango, Guatemala
Documentary Intern June 2018 – August 2018
- Authored research report on optimizing mealworm farming process
- Filmed and produced original promotion video and documentary

SERVICE (REVIEWING)

Human-Agent Interaction, 2023 (HAI)
Human Factors in Computing Systems, 2023 (CHI) (Student Game Competition)

TEACHING EXPERIENCE

UChicago Biological Sciences Division, Chicago, IL USA 2020-2021
- Served as a TA for Cellular Neuroscience and Systems Neuroscience introductory courses
- Held office hours, taught neuroscience concepts, graded hundreds of student papers and exams

SKILLS

Coding: Highly proficient in Python (numpy, sklearn, matplotlib, PyTorch, pandas), SQL (Redshift), Microsoft Office and Google Suite, proficient in C, C++, MATLAB, web-scraping (API calls, Beautiful Soup), LaTeX/markup, and git (version control); experience with command line tools, AWS Cloud: Sagemaker, S3, Athena, JavaScript, HTML, CSS, Hugo
Languages: Native English, Proficient Spanish, Intermediate German