

EDUCATION

Duke University

December 2016 • Durham, NC
M.S. in Biomedical Engineering
GPA: 3.83/4.00

Washington University in St. Louis

May 2015 • St. Louis, MO
B.A. in Neuroscience
Minor in Music
Alpha Delta Phi, Eliot Chapter
College Honors, Dean's List
GPA: 3.60/4.00

University College London

January – June 2014 • London, UK
Affiliate Student, Biosciences Division
Grade: Upper Second (2:1)

SKILLS

Development

Python
Database design
AWS
Docker
Flask
JavaScript

PROJECTS / POSTERS

M.S. Final Poster Presentation

- + “Deriving bilateral lower limb kinematics from cortical population activity during bipedal primate locomotion”
- + Presented Duke University, Dec. 2016

AGBT 2020 Poster

- + “Computational methods for FISSEQ 3D *in situ* single-molecule transcript quantification and tissue spatial analysis”
- + Presented AGBT Conference, Jan. 2020

Wisdom of the Flock

- + Personal full stack project using a Python Twitter bot to scrape tweets and display them
- + Built backend API and database using Flask and SQLAlchemy, frontend with JavaScript and React

Personal Site

- + Taught myself JavaScript and React to build my personal website using Gatsby.js

EXPERIENCE

10X GENOMICS. *Engineer 3*

December 2020 – Present • Seattle, WA

- + Building a full-stack internal data management tool using Go for the backend and API, and React and react-admin for the front-end

READCOOR. *Software Engineer*

February 2018 – December 2020 • Cambridge, MA

- + Created DNA probe design pipeline using Python and Nextflow to generate unique, gene-specific barcoded DNA probes for R&D
- + Built multiple databases with APIs using Flask and PostgreSQL, deployed on AWS
- + Led multiple small teams to create and deploy frontend and backend components for the probe design software, and complete image annotation tasks
- + Developed and implemented algorithms for image registration and DNA base-calling from image features
- + Designed a benchmarking tool to run the image processing pipeline across parameter ranges, aggregating the results for algorithm performance assessment
- + Worked on a suite of tools to generate synthetic image data for benchmarking

APEX NEURO. *Biomedical Engineer*

July 2017 – February 2018 • Cambridge, MA

- + Analyzed subject biometrics and subjective metrics from human studies to assess efficacy of a noninvasive nerve stimulation device
- + Designed backend infrastructure with PostgreSQL and Tableau visualization

NEUROTECHX. *Editor, Writer, Organizer*

August 2017 – January 2019 • Cambridge, MA

- + Writer and Editor of the “New Emerging Tech” and “Machine Learning for BCIs” content for the NeuroTechEDU open education platform
- + Organized speaker events and Hack Nights around neurotechnology for NeuroTechBOS, the Boston chapter of NeuroTechX with over 750 members

FREELANCE. *Data Scientist & Developer*

May 2017 – August 2017 • Boston, MA

- + Analyzed heart rate data to assess efficacy of a gaming platform in helping players regulate emotion across weeks
- + Built automation pipeline for administrative tasks handling over 4000 users within a caregiver educational platform

TECHSTARS BOSTON. *Data Science & Tech Associate*

January 2017 – May 2017 • Boston, MA

- + Performed data analytics and software development projects for 5 early-stage startups in the Techstars Boston class
- + Created and deployed an automatic email notification and Google Calendar bot to help organize 350+ meetings a week across 24 teams

MIGUEL NICOLELIS NEURAL ENGINEERING LAB. *Research Assistant*

September 2015 – December 2016 • Durham, NC

- + Created predictive models of leg motion from *in vivo* cortical neuron activity for potential application to brain-machine interfaces
- + Implemented Kalman filtering and multilinear regression in MATLAB to determine phase of gait and examine neural firing patterns