

## Skills

<b>Data</b>	12+ years experience with data and experimentation: Statistics • Machine Learning • Predictive Modeling • 4D Imaging • Signal Processing • Experimental Design
<b>Programming</b>	12+ years experience in programming: SQL • Python (numpy, pandas, scikit-learn, matplotlib, seaborn, tensorflow) • Matlab • R • LabView
<b>Visualization</b>	12+ years experience in visualizing data : 3 custom-built GUIs for data exploration/analysis • 8 journal publications • 10+ posters • 50+ powerpoint presentations
<b>Management</b>	9+ years experience in managing collaborative projects with mentorship or lead role.
<b>Communication</b>	10+ years experience with teaching, public talks, presentations and writing to communicate technical material.
<b>Design</b>	10+ years experience designing graphics with Adobe Illustrator, Inkscape, and Powerpoint.

## Select Experience & Education

**Insight Data Science Fellowship (June 2018 to Present)** **Silicon Valley, CA**

**Postdoctoral Research Associate (2011 to present, 2 publications + 2 anticipated)** **Cornell University**

As a postdoctoral neuroscientist, examined the links between neuronal activity on the cellular and molecular scale and the control of swimming behavior in larval zebrafish. Developed and wrote custom software and algorithms for data acquisition, processing, and statistical analysis. Interpreted and disseminated experimental results to the scientific community via publications and scientific presentations.

- Programmed image processing and analysis pipeline for microscopy data streaming at hundreds of GB per minute. Resulted in a 10x compression of image data and 50x speedup in processing time.
- Performed k-means clustering and correlational analysis among 150,000+ neuronal activity patterns to identify motor-related brain regions. Resulted in the separation of signals specifically related to eye movements, swimming, and sensory stimuli.
- Developed computer vision algorithm and interface for tracking multiple animals in streaming video at 60 Hz (github.com/dawnis/larvalMultitrack).
- Organized and led year-long collaborative effort between three labs at Cornell to apply novel technology (3P microscopy) and machine learning to neuroscience.

**PhD in Molecular, Cellular and Integrative Physiology: UCLA; (2006-2011, 6 Publications)**

Dissertation: Examined the influence of visual and sensory input on flight reflexes in fruit flies within a virtual reality flight chamber.

**MSc in Statistics and Epidemiology: Chinese University of Hong Kong; (2004 – 2006)**

**BS in Biological Sciences: Stanford University (2000 – 2004)**

**Relevant Coursework:** • *Tensor Flow and Artificial Intelligence* (The Data Incubator) • *CS231n: Convolutional Neural Networks for Visual Recognition* (Self Study) • *Machine Learning* (98% Score; Coursera)

<b>Awards</b>	<b>Senior Mong Neurotechnology Fellowship</b> 2017-18 (1 <sup>st</sup> Place, Cornell Campus) <b>Ruth L. Kirchstein National Research Service Award</b> 2013-16 (Top 3.0% Score)
---------------	---

<b>Public Speaking</b>	<b>Society for Neuroscience</b> 2009-2017 (Chicago IL, San Diego CA, Washington DC) <b>International Conference on Neuroethology</b> 2010 (Salamanca, Spain) <b>Chinese Academy of Sciences</b> 2010 (Beijing, China)
------------------------	---

<b>Leadership</b>	<b>Research Mentorship (2008 - present):</b> Mentored 6 undergraduate research experiences resulting in 2 Honors Theses and 2 co-authored publications. <b>Cornell Prison Education Program (2013):</b> As primary instructor, coordinated a team of student TAs to teach a self-designed course (Animal Physiology) for prison inmates.
-------------------	---