Pinak Nayak

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EDUCATION

University of California, Los Angeles (UCLA) *Los Angeles, CA*
Bachelor of Science (B.S.) in Neuroscience *March 2020*

Certifications - Introduction to Neurohacking in R; Data Management for Clinical Research;

SKILLS AND PROJECTS

EEG, fMRI, Python, R, REDCap, MATLAB: https://github.com/npinak

Lab Skills: PCR, Gel Electrophoresis, Blotting Techniques, Cell Culture, Chromatography techniques, EEG analysis, fMRI analysis, Spectroscopy, Immunoassay, Microscopic Techniques, Histological Techniques, Statistical Analysis Methods

Software: REDCap, Qualtrics, SPSS, SPM, AFNI, E-Prime, Microsoft Office Suite (Word, Excel, Powerpoint, Outlook, Access)

Tarai Environment Awareness Sammiti
- Created brochures using Scribus desktop publishing software for a non-profit focusing on rural development
- Edited and proofreading pre-written content.
- Created new content to be put on brochures and flyers.

Antibody Viability Study
- Designed and carried out an experiment to see if antibodies could detect the Adenosine A3 Receptor in Planaria.
- Used SDS-PAGE to run and blot proteins, blots were then imaged using enhanced chemiluminescence, finally the blots were stained.

Planaria Habituation Facilitation (Behavioral Experiment)
- Designed and carried out an experiment to see how quickly 60 planaria habituated to a stimulus (puff of air) when given various medications.
- Conducted data analysis using SPSS and determined that S-Adenosyl Methionine facilitated habituation in planaria.

Histology Slide Preparation
- Prepared a sample of mouse muscle for observation under a microscope by fixing the sample, embedding the sample, sectioning a piece of the sample, and finally staining the sample.

EXPERIENCE

Ishanya Foundation *(Special Education School)* *Remote*
Research Intern *Aug. 2021 – Present*
- Designing a peer counseling group to help autistic young adults cope with the demands of having a job.
- Aiding in the creation of a research grant.
- Participating in group counseling sessions to improve career development for autistic individuals.
- Contacting private companies and government organizations to collaborate on career training programs for neurodiverse individuals

Win Over Cancer *(Non-profit Organization)* *Remote*
Content Writer *March 2021 – July 2021*
- Developed newsletters and social media content for cancer healthcare which increased page views by 10%.
- Created Impact Stories to persuade donors to contribute money towards an individual's treatment.
- Assisted in the development of content strategies which persuaded donors to contribute over Rs. 50,000 in aid.

Sagar Hospital *Bangalore, India*
Physician Shadowing / Hospital Volunteering *June 2018 – Aug. 2018*
- Accompanied the attending doctor on their rounds around the hospital and observed neurological tests on patients.
- Assisted staff with medical treatments and helped speed up appointments by noting down information from patients.
- Ensured that the hospital examination rooms were fully stocked with supplies.

Interaxon *(Student Club)* *Los Angeles, CA*
Volunteer *Sept. 2015 – April 2017*

- Presented over 30 posters of unusual phenomena in neuroscience to middle school and high school students.
- Coordinated with club members to organize meeting and practice times.
- Contributed to the creation of presentations and activities for children.
- Trained 5+ members on talking points for presentations.
- Contacted 20+ schools in the LA Unified School District to explain our mission and set presentation times.
- Recruited members by handing out flyers and making announcements in classrooms.

Organization de Scalene *(Research Center)* *Bangalore, India*
Research Intern *June 2014 – July. 2014*

- Ordered $200 worth of lab supplies biweekly.
- Scheduled weekly equipment use timetable to ensure everyone had adequate time in limited lab spaces.
- Designed a research study to identify species of bacteria in water samples and then authored a report based on the findings.

RELEVANT COURSEWORK

Chemistry Lab 1: Learned skills related to volumetric, spectrophotometric, and potentiometric analysis. Use and preparation of buffers and pH meters. Synthesis and kinetic techniques.

Chemistry Lab 2: Learned skills related to synthesis and analysis of compounds; purification by extraction, chromatography, recrystallization, and sublimation; characterization by mass spectroscopy, and pH titration.

Biology Lab: Conducted experiments in physiology, metabolism, cell biology, molecular biology, genotyping, and bioinformatics. Learned techniques related to PCR primer design, gel electrophoresis, and dissection.

Data Management for Clinical Research: Critical concepts and practical methods to support, planning, collection, storage, and dissemination of data in clinical research. Overview of regulatory compliance (HIPAA, GCP, FISMA).

Principles of fMRI: Design, acquisition, and analysis of fMRI. Including psychological inference, MR Physics, K Space, experimental design, pre-processing of fMRI data, as well as Generalized Linear Models (GLM's).

Neuroimage Data Analysis: How to use the R programming language and its associated package to perform manipulation, processing, and analysis of neuroimaging (MRI) data.

EEG Signal Processing and Analysis: Brain electrical signal analysis. Signal processing, data visualization, spectral analysis, synchronization (connectivity) analyses, and statistics (in particular, permutation-based statistics).

Neuroscience Laboratory: Introduction to laboratory methods in neuroscience. Laboratory exercises range from molecular and cell, biology to behavioral—hands-on experience with important methodology and experimental approaches in neuroscience.

Physiological Science 175: Exploration of whether other species possess potential building blocks for language. Topics ranged from an examination of how bees and ants signal about food sources to whether structured songs of birds, whales, and monkeys contain compositional meaning.

Neuroscience M176: Interdisciplinary approach to understanding how humans and other animals communicate emotion and meaning using sound. Weekly research topics in disciplines of systems neuroscience, cognitive neuroscience, psychophysics, and psycholinguistics.

Psychology 120A: Survey of cognitive psychology: how people acquire, represent, transform, and use verbal and nonverbal information. Perception, attention, memory, decision making, language, thinking, and action.

M101A Cellular and Systems Neuroscience: Cellular neurophysiology, action potentials, and synaptic transmission. How assemblies of neurons process complex information and control movement.

M101B Molecular and Developmental Neuroscience: Molecular biology of channels and receptors: focus on voltage-dependent channels and neurotransmitter receptors. Molecular biology of supramolecular mechanisms: synaptic transmission, axonal transport, cytoskeleton, and muscle. Classical experiments and modern molecular approaches in developmental neurobiology.

M101C Behavioral and Cognitive Neuroscience: Neural mechanisms underlying motivation, learning and cognition.