Education

Bachelor of Science in Chemical Engineering University of California, San Diego La Jolla, CA September 2018 - June 2
Minors in Biology, Chemistry, and Data Science Work Experience Scientist, Drug Discovery Manufacturing Thermo Fisl
Manufactured and qualified lab products following standard operating procedures.
Performed buffer preparation, column purification, chromatography, SDS-PAGE, Western blots.
Executed TR-FRET, immunofluorescence, radioactive, & protein concentration assays.
Assisted with process improvement projects to reduce waste and raise productivity. Research Assistant UC San Diego: Sc
Worked with Dr. Armin Blesch on identifying mechanisms influencing neuronal plasticity and regeneration in the mammali
Implemented various techniques to investigate the potential role of neural stem cells and biomaterials in spinal cord regener
Assisted with projects addressing the structural changes associated with pain development after spinal cord injury.
Performed mouse perfusions and analyzed two-photon excitation microscopy data.
Validated findings in rodent models through gene therapy. Research Assistant UC San Diego: School of Medicine - Center
Worked with Dr. John Ravits to identify mechanisms & therapeutic targets of neuronal degeneration in ALS.
Researched association of nucleolar stress and translation dysfunction on ribosomal biogenesis in sALS, C9-ALS and SOD1-
Developed protocol to identify proteins binding to G_4C_2 & G_2C_4 repeat expansions in C9orf72 RNA transcripts of cells affl
Implemented various techniques to investigate appropriate targets for antisense oligonucleotide therapies.
Assisted with cryostorage organization, confocal microscopy, immunostaining, and cell culture. Computational Neuroscien
Computational neuroscience study in software development for large-scale biomedical image analysis.
Implemented deep neural networks and image processing pipelines with regard to learning, memory, and inter-neuron comm
Developed a Python program to generate colored meshes from label volumes and isolate unique regions. Undergraduate R
Worked with Dr. Derek Welsbie on developing a neuroprotective strategy for glaucoma.
Implemented various techniques to identify drug targets in primary mouse and stem cell-derived human retinal ganglion cel
Assisted with projects addressing the signaling pathway in retinal ganglion cell death.
Validated findings in rodent models using gene therapy.
Performed lab chores and helped with the design, performance, and interpretation of experiments. Digital Pathology Coor
Digital pathology research group verifying the viability of digital scans of tissue slides to replace physical samples.
Helped pull slides from archives, scanned slides with a digital slide scanner, and shadowed Dr. Valasek's diagnoses of the sli
Developed and maintained a database comparing the diagnoses between a physical slide and a digital copy. Mechatronics
Worked with Professor Simon Penny on the Orthogonal project that attempted to build a self-sailing sailboat, controlled by
Tasked with physically building the boat and working with Arduino micro-controllers to control a DC motor for autonomy.
Applied rudder control through various integrated circuits and configured radio communication between wireless nRF modu
Led a team of 7 undergraduate students to research optimization of ethanol production methods, specializing in lignocellulo
Analyzed the advantages and disadvantages of current industry practices regarding ethanol extraction.
Taught students how to approach academic research papers and prepare research proposals. Research Engineer May 2020
Design and build a portable vertical axis wind turbine for on-campus implementation and local STEM outreach.
Analyze data to determine optimal conditions and parameters for turbine function. Volunteer Mentor CyberPatriot Natio
Specialized in Linux (Ubuntu & Debian) and Cisco Networking.
Created practice virtual images for the students to hone their skills.
Contributed to curriculum for securing Windows/Linux workstations/servers, laying foundation for multi-year national semi
Taught 70+ middle & high school students how to secure Windows and Linux servers, workstations, and services like Apach
Ranked in top 20 teams nationally and reached national semifinals competition 3 years in a row. Technology Lab Volunte
Taught children how to use computers, using a software called Jaws that read commands and screen content.
Created e-books for college students by scanning hard copies for use by Jaws.
Assisted visually impaired adults with resumes, job and scholarship applications. Student Volunteer Fullerton Sister City
Assisted with language development for Chinese students by conducting various games and activities to help them master t
Learned about the differences between two cultures and gained various social skills by interacting and communicating with

Contributor Computational Model of Epithelial-Mesenchymal Transition in Breast Cancer La Jolla, CA April 2020 - Se
Generated a computational model of a cell with breast cancer undergoing epithelial-mesenchymal transition and associated
Used AWS Comprehend ML to analyze photos of event flyers and extract information such as event titles, descriptions, dat
Employed open source ical4j library to manage events and generate .ics files for event export, in compliance with iCalendar
Built application for users to enter data into calendar applications for increased productivity, without tedious manual entry

National Semifinalist CyberPatriot X Platinum Tier Garden Grove, CA 2018 Recipient National Merit Commended Sch

Presenter Biological Undergraduate and Master's Mentorship Program La Jolla, CA May 2022
Presented on the Thermo Fisher Scientific Co-Op experience, in the Drug Discovery Manufacturing department. Presente
Introduced and demonstrated the FlyerScanner project developed during SDHacks 2019 for judging. Writing

Author The Effects of Digital Piracy on the Economy of the Music Industry August 2017 - December 2017
Analyzed the effects of digital piracy on the economy of the global music industry on consumers and produce through sever

Relevant Coursework

Honors General Chemistry Three quarter honors sequence covering quantum mechanics, orbital theory, and bonding. O
Linear Algebra Matrix algebra, elimination, eigenvalues & eigenvectors, and MATLAB computational solutions. Chemical R
semiconductors. Thermodynamics of Materials Fundamental laws of thermodynamics for simple substances. Chemical Proc

Professional Affiliations
International Society of Pharmaceutical Engineering Project Researcher 2020 - 22 Data Science Society Member 2019