Digvijay Jani

714-499-3505 | djani@ucsd.edu | varystargaryen | digvijay-jani

Education

University of California, San Diego
La Jolla, CA

Bachelor of Science in Chemical Engineering
September 2018 - June 2022

- Minors in Biology & Chemistry

Work Experience

Illumina
San Diego, CA

Technical Writer
July 2022 - Present

- Contributed to process improvement and optimization in manufacturing.

Thermo Fisher Scientific
Carlsbad, CA

Scientist, Drug Discovery Manufacturing
July 2021 - Present

- 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.

UC San Diego: School of Medicine - Center for Neural Repair
La Jolla, CA

Research Assistant
February 2020 - Present

- Worked with Dr. Armin Blesch on identifying mechanisms influencing neuronal plasticity and regeneration in the mammalian nervous system.
- Implemented various techniques to investigate the potential role of neural stem cells and biomaterials in spinal cord regeneration.
- 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.

UC San Diego: School of Medicine - Center for ALS Research & Therapy
La Jolla, CA

Research Assistant
September 2020 - November 2021

- 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-dependent ALS.
- Developed protocol to identify proteins binding to G_4C_2 & G_2C_4 repeat expansions in C9orf72 RNA transcripts of cells afflicted by ALS & determine full sequence and structure of repeat expansions.
- Implemented various techniques to investigate appropriate targets for antisense oligonucleotide therapies.
- Assisted with cryostorage organization, confocal microscopy, immunostaining, and cell culture.

UC San Diego: National Center for Microscopy and Imaging Research
La Jolla, CA

Computational Neuroscience Intern
August 2019 - April 2021

- 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 communication.
- Developed a Python program to generate colored meshes from label volumes and isolate unique regions.

UC San Diego: Altman Clinical & Translational Research Institute
La Jolla, CA

Undergraduate Research Assistant
September 2019 - April 2020

- 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 cells.
- Assisted with projects addressing the signaling pathway in retinal ganglion cell death.
- Validated findings in rodent models using gene therapy.

Leadership

American Institute of Chemical Engineers
La Jolla, CA

Project Manager
November 2020 - October 2021

- Led a team of 7 undergraduate students to research optimization of ethanol production methods, specializing in lignocellulosic biomass.
- 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 - October 2021

- 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.

Skills

Techniques	Cell Culture, Confocal Microscopy, ELISA, Genotyping, IF Staining, qRT-PCR, RNA-Seq, Western blot
Languages	Bash, C, C++, Python, Java, MATLAB, PowerShell, R
Tools/Frameworks	AutoCAD, AWS, CellProfiler, Fiji, Git, ImageStudio, JMP, LaTeX, Linux, Microsoft Office, Minitab, RStudio, Zeiss ZEN