Shivalika Chavan

New York, NY

1 (408) 646-9645 - shivalika.chavan@gmail.com - LinkedIn

EDUCATION

Columbia University Mailman School of Public Health, New York, NY
M.S., Biostatistics – Public Health Data Science — May 2027

University of Washington College of Engineering, Seattle, WA
B.S., Bioengineering (Data Science) with Honors, Minor in Applied Mathematics — May 2021
GPA: 3.73

WORK EXPERIENCE

Senior Scientist, Roche
Santa Clara, CA — July 2021 – July 2025

- Generated evidence and pre-commercialization data across 3 key R&D phases to demonstrate product value and inform market access strategy for the Axelios SBX next-generation sequencing (NGS) technology, enabling high throughput and high accuracy sequencing for applications in whole genome sequencing.
- Led a team of 3 in the quantitative analysis for feasibility studies, working with development teams and manufacturing sites to scale up their processes, leading to a 16% improvement in sequencer throughput.
- Developed a scalable data analysis pipeline in R and SQL to perform exploratory data analysis (up to 9 months of sequencing data), interpret key performance indicators, and translate ambiguous trends in sequencing data into actionable recommendations for stakeholders.
- Presented technical findings and evidence-based recommendations to diverse technical and non-technical stakeholders, including upper management, to guide product development and commercialization decisions.

Undergraduate Researcher, Neural Engineering & Rehabilitation Design Lab, Univ. of Washington
Seattle, WA — January 2018 – June 2021

- Spearheaded foundational data analysis and interpretation for two peer-reviewed publications investigating post-stroke neural electrophysiology, guiding future therapies by demonstrating existing compensatory mechanisms.
- Cleaned and wrangled 40+ GB of electrophysiological data and created a dynamic map visualization of the cortex to represent changes in network connectivity after a stroke-like lesion is induced.

Undergraduate Lead, Bioengineers Without Borders
Seattle, WA — January 2018 – June 2021

- Developed a shear wave ultrasound hydration monitor to quantitatively detect pediatric dehydration in low-resource settings, enabling precise water/electrolyte/IV treatment (Amazon Catalyst Award winner).

Algorithms and Research Engineer, Philips
Seattle, WA — June 2020 – September 2020

- Conducted retrospective data analysis on real-world Automated External Defibrillator (AED) clinical data, evaluating the performance of shock advisory algorithms and shock efficacy across 560+ patients and 3,900+ analysis periods, for a post-market study on the AED, an FDA-regulated device.
- Annotated clinical data from prehospital resuscitations, processing post-intubation breaths across 50+ patients to enable a pilot investigation of prehospital respiratory mechanics and ventilation safety.

TECHNICAL SKILLS

Programming and Data Science - R, Python (Pandas, NumPy, Scikit-learn), SQL, Git/GitHub, MATLAB, Excel
Statistical Methods - Hypothesis Testing, Process Control Charts
Machine Learning - Regression Analysis, Principal Component Analysis, K-means clustering

PUBLICATIONS

Ip Z, Rabiller G, He JW, **Chavan S**, Nishijima Y, Akamatsu Y, Liu J, Yazdan-Shahmorad A. *Local field potentials identify features of cortico-hippocampal communication impacted by stroke and environmental enrichment therapy*. J Neural Eng. 2021 Jul 6;18(4):10.1088/1741-2552/ac0a54. doi: 10.1088/1741-2552/ac0a54. PMID: 34111845; PMCID: PMC8542391. (link)

Griggs DJ, Bloch J, **Chavan S**, Coubrough KM, Conley W, Morrisroe K, Yazdan-Shahmorad A. *Autonomous cage-side system for remote training of non-human primates.* J Neurosci Methods. 2021 Jan 15;348:108969. doi: 10.1016/j.jneumeth.2020.108969. Epub 2020 Oct 8. PMID: 33039414; PMCID: PMC8384435. (link)