SUSAN ZHANG ROODSARI

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EDUCATION

University of California, Berkeley GPA: 3.7 | Berkeley, CA **Class of 2022**

- Molecular & Cell Biology, Data Science
- Regents' and Chancellor's Scholar (top <1% of incoming class)

EXPERIENCE

Shinobi Therapeutics *Technical Research Associate* | South San Francisco, CA **Jan 2023 – Mar 2024**

- Develop and improve assays to analyze the immune evasion capabilities of edited iPS cell lines
- Optimize gene editing and cell engineering via lentiviral & gammaretrovirus transduction followed by electroporation
- Produce and evaluate immunological interactions of mutant cell lines, prepping for preclinical experimentation

Synthego *Research Associate* | Redwood City, CA **Jun 2022 – Nov 2022**

- Research emerging gene editing tools and techniques and analyze their efficiency and viability
- Investigate feasibility of incorporating cutting edge gene editing tools into Synthego production pipeline
- Design prototypes on a cross-functional team working towards the automation of the gene editing pipeline

UC Berkeley Dept of Public Health, Harris Lab *Research Assistant* | Berkeley, CA **Jun 2021 – Jun 2022**

- Research flavivirus viral/host factors that regulate disease severity & immune correlates of protection & pathogenesis
- Discovered Dengue NS1 interaction with human endothelial cells is driven by the wing and β ladder domains & determined specific residue that influences tissue specific NS1 endothelial cell binding on the wing domain
- Published second authorship paper on tissue specificity of the nonstructural protein 1 of flaviviruses

UC Berkeley Dept of Molecular & Cell Biology, Weisblat Lab *Research Assistant* | Berkeley, CA **Oct 2019 – Jul 2021**

- Investigate the function of multiple genes during embryonic development of *H. Austinensus* via CRISPR editing
- Analyze subsequent growth of mutated embryos via In Situ and Lineage Tracing to determine expression of genes
- Discovered deletion of the Hox3 gene leads to disruption of the mesodermal layer during embryonic development

UC Berkeley Dept of Physics, Khalid Lab *Research Assistant* | Berkeley, CA **Jan 2019 – May 2019**

- Researched carbon nanotube biosensors to monitor human health using a multi-analyte sensor array platform
- Conducted market research on troponin biosensors to determine potential for growth

PROJECTS

Encore: React TS, Express.js, Next.js, AWS Lambda

- Developing an AI-enabled shopping assistant that aggregates the best resale alternatives for products as you shop
- Working with team of two engineers & starting out with a Chrome extension; have gathered feedback from 800+ users
- Website in Next.js, Chrome extension in React TS, backend aggregator/scraper in Express.js deployed using AWS

Suzdoku: React TS, Tailwind CSS, Cloud Firestore, Vercel (link to site)

- Created lightweight React web app that generates unique sudoku puzzles of varying difficulties and outputs cute yet encouraging images of cats when the user successfully completes the puzzle; inspired by love for cats and sudoku

MIT ML Research: Python, Pytorch, Matplotlib, Seaborn

- Developing a machine learning model inspired by how animals learn, using Pytorch. The model quickly adapts to new spatial states while remembering previous ones, similar to spatial memory in animals; visualizing results using Seaborn

Global Deep Brain Stimulation - Neuro International Collaboration (NIC)

- Collaborate with researchers to advance neuroscience research focused on deep brain stimulation (DBS)
- Explore current state of patient care & global scientific understanding of DBS procedures & effects

SKILLS

Technical: *Proficient:* Python *Intermediate:* R, Java, JavaScript/Typescript, HTML, CSS
Languages: Mandarin Chinese (spoken), Farsi (intermediate), Spanish (beginner)

PUBLICATIONS

Lo, N., **Roodsari, S. Z.**, Tin, N. L., Wong, M. P., Biering, S. B., & Harris, E. (2022). Molecular Determinants of Tissue Specificity of Flavivirus Nonstructural Protein 1 Interaction with Endothelial Cells. Journal of virology, e0066122.

Gravina, A., Tediashvili, G., Zheng, Y., Iwabuchi, K. A., Peyrot, S. M., **Roodsari, S. Z.**, Gargiulo, L., Kaneko, S., Osawa, M., Schrepfer, S., & Deuse, T. (2023). Synthetic immune checkpoint engagers protect HLA-deficient iPSCs and derivatives from innate immune cell cytotoxicity. Cell stem cell, 30(11), 1538–1548.e4. https://doi.org/10.1016/j.stem.2023.10.003