

Pramesh Sharma

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EDUCATION

UC DAVIS

BS IN COMPUTER SCIENCE

June 2024 | Davis, CA

GPA: 3.2 / 4.0

COURSEWORK

UNDERGRADUATE

Computer Vision

Operating Systems

Artificial Intelligence

Scientific Computation

Data Structures

Machine Learning

Human Computer Interaction

AWARDS

Regents Scholar

AvenueE Scholar

Engineering, Math, and Physics Scholar

Michael Sager Memorial Scholar

Genentech gLINX Program Mentee

Deloitte Consulting Scholar

PUBLICATIONS

Lee, J. A., Palacios, D., Singh, A., Marous, M., **Sharma, P.**, Liddel, L., Gentry, D., Santa Maria, S.

AMMPER-2: A spatially explicit agent-based model of microbial radiobiology with redox dye simulation.

American Society for Microbiology, Jan 2026.

Clore, M. F., Thole, J. F., Dontha, S., **Sharma, P.**, Jensen, D., Volkman, B., Coudron, M., Porter, L.

Explaining how mutations affect AlphaFold predictions.

bioRxiv (preprint), Dec 2025.

doi:10.64898/2025.12.30.697132

Blanco, C., Tee, A., **Sharma, P.**, Newton, M. S., Lee, K.-H., Erickson, S. E., Seelig, B., Chen, I. A.

EasyDIVER+: an advanced tool for analyzing high-throughput sequencing data from in vitro evolution of nucleic acids or amino acids.

Journal of Molecular Evolution, Apr 2025.

SKILLS

Python • C/C++ • R • JavaScript

PyTorch • TensorFlow • Docker • Git

EXPERIENCE

National Institutes of Health | POSTBACCALAUREATE FELLOW

Aug 2025 - Present | Bethesda, MD

- Developed an AI interpretability tool leveraging AlphaFold attention weights to extract biologically meaningful insights from protein structures, earning 10+ GitHub stars and a publishable bioRxiv manuscript
- Implemented automated testing and streamlined multi-environment releases with GitHub Actions, reducing developer time by 3 minutes per pull request

Intelligent Retail Lab by Walmart | SOFTWARE ENGINEER

July 2024 - June 2025 | Sunnyvale, CA

- Led the design and implementation of a DeepStream inference pipeline, delivering reliable real-time streaming, object detection, and multi-object tracking across 6+ edge cameras
- Automated collection of manual metrics across 13+ NVIDIA Jetson devices by replacing jetson-stats through development of a real-time system monitoring tool using Python, Prometheus, and Grafana
- Implemented a PyTorch ONNX-to-TensorRT model converter for DeepStream, reducing deployment time by 50%, and automated training workflows with Kubeflow and Weights & Biases
- Built a scalable ETL pipeline applying image transformations to 40,000+ grocery items, achieving a 2.5x speedup through parallelized workflows using Apache Beam and Dataflow

INTERNSHIPS

NASA | COMPUTATIONAL BIOLOGY INTERN

Aug 2023 - Dec 2023 | Mountain View, CA

- Architected a Linear-Quadratic-based cell health model, reducing prediction error for cell fate outcomes by 2x via probabilistic modeling of cell states
- Implemented hyperparameter tuning using Bayesian-search techniques resulting in 40% improved model accuracy across experimental datasets

NASA | SPACE SYSTEMS ENGINEERING INTERN

Aug 2022 - Dec 2022 | Merritt Island, FL

- Streamlined cross-functional collaboration across 3+ engineering divisions by standardizing project modeling for the \$14.8B Lunar Pilot Excavator through a Systems Engineering Modeling Management Plan in MagicDraw
- Replaced paper-based engineering workflows by defining a modeling strategy that aligned digital engineering review processes between 15+ engineers

Genentech | COMPUTATIONAL PROTEOMICS INTERN

Jun 2022 - Sep 2022 | San Francisco, CA

- Built an internal tool with the Pyramid RESTful framework to automate analysis of 3,000+ protein-peptide samples which is used by 10+ wet-lab scientists for data visualization workflows
- Standardized tool deployment via Docker, ensuring portability and integration into an internal suite of published proteomics microservices

Genentech | PHARMA TECHNICAL OPERATIONS INTERN

Jan 2022 - Jun 2022 | San Francisco, CA

- Reduced on-call response time by 20% for 40+ drug campaigns to streamline PagerDuty notifications and drug campaign creation
- Saved 50+ engineering hours per quarter by automating user access to incident data using Google Sheets API and JavaScript, cutting incident handling time by 5 minutes each