

Sachin Salim

sachinksalim@gmail.com • +91 8281-285-234 • sachinksalim.github.io

EDUCATION

University of Southern California, Los Angeles, CA

PhD* - Electrical and Computer Engineering

Aug 2024 – May 2025 (*Discontinued*)

GPA: 4.00/4.00, Advisor: Dr. Anand Joshi, Signal and Image Processing Institute

University of Michigan, Ann Arbor, MI

Masters - Data Science and Machine Learning, Electrical and Computer Engineering

Aug 2022 – Dec 2023

GPA: 4.00/4.00

Indian Institute of Technology Kanpur, India

July 2014 – May 2018

Bachelor of Technology - Computer Science and Engineering

TECHNICAL SKILLS

Machine Learning & Data Processing: PyTorch, Scikit-learn, Apache Spark, SQL, Pandas, NumPy, CV, NLP

Big Data & Cloud Technologies: AWS (S3, Lambda, EKS), Hadoop HDFS, Serverless Architectures, ETL Pipelines

Backend & DevOps: Node.js, Express, RESTful APIs, Docker, Kubernetes, Jenkins, CI/CD

Frontend Development: TypeScript, React, Redux, HTML5, CSS3

Tools & Platforms: Git, GitHub, VS Code, Postman, JIRA, Linux, Agile/Scrum methodologies

PUBLICATIONS

- In vivo electrophysiology recordings and computational modeling can predict octopus arm movement, N. Gedela, **S. Salim**, R. Radawiec, J. Richie, C. Chestek, A. Draelos, G. Pelled, 2024 (*Accepted in Bioelectronic Medicine*)

PROFESSIONAL EXPERIENCE

Skellam AI, Bengaluru, India

Aug 2021 - Aug 2022

Applied Machine Learning Engineer

- Developed and deployed deep learning pipelines using PyTorch for real-time sentiment analysis and topic modeling, enabling enterprise-grade insights from billions of unstructured text records across apps and social media
- Designed distributed ETL workflows using Apache Spark and SQL to preprocess and harmonize structured and unstructured datasets stored across AWS S3 and Hadoop HDFS, improving data throughput by 35%
- Containerized microservices for Lexcore's LLM-based Q&A and NLP modules using Docker, and orchestrated scalable deployments with Kubernetes on AWS EKS, ensuring efficient use of resources through autoscaling
- Collaborated with cloud architects to optimize Lexcore's serverless architecture on AWS Lambda, reducing inference latency by 40% and enabling cost-effective on-demand analytics for clients like Starbucks

Adobe Inc., Noida / Bengaluru, India

June 2018 - July 2021

Software Development Engineer – 2

- Contributed to the development of Adobe Captivate, a cloud-integrated e-learning authoring platform, by implementing interactive UI components using TypeScript, React, and Redux, enhancing content responsiveness
- Built and optimized RESTful APIs using Node.js and Express, enabling real-time collaboration and media asset management across distributed teams and platforms
- Integrated AWS services such as S3, CloudFront, and Lambda for scalable multimedia storage and delivery, improving content load times and platform availability for global users
- Spearheaded CI/CD pipeline improvements using Jenkins and Docker, accelerating release cycles by 25% and reducing deployment errors through automated testing and container-based builds

Samsung R & D, Bengaluru, India

May 2017 - July 2017

Software Development Intern

- Developed and integrated IoTivity protocol stack on Samsung's ARTIK Smart IoT platform, enabling dynamic device discovery, secure communication, and seamless interoperability across heterogeneous IoT environments

RESEARCH EXPERIENCE

Biomedical Imaging Group, University of Southern California

Aug 2024 – May 2025

Research Assistant | Advisor: Dr. Anand Joshi, Dr. Richard Leahy

- Developed deep learning pipelines using 3D U-Net within the MONAI framework to reconstruct missing MRI sequences in clinical brain imaging datasets, incorporating quantile regression to estimate uncertainty
- Contributed to research on biomarker identification for post-traumatic epilepsy (PTE) using multi-site traumatic brain injury (TBI) MRI datasets, utilizing high-performance computing resources for large-scale data analysis

Draelos Lab, University of Michigan

May 2023 – July 2024

Research Assistant | Advisor: Dr. Anne Draelos

- Led a published research project on octopus arm movement, combining behavioral analysis using DeepLabCut with single-neuron spiking data to develop biologically inspired decoding models of distributed motor control
- Applied variational autoencoders (VAEs) to identify genetic biomarkers of Alzheimer's disease from high-dimensional transcriptomic data in mouse models, uncovering associated latent representations

Cortical Neural Prosthetics Lab, University of Michigan

Jan 2023 – Apr 2023

Research Assistant | Advisor: Dr. Cynthia Chestek

- Developed a real-time finger kinematics prediction model using reinforcement learning frameworks such as Gym and RLib-Ray, aimed at advancing neural control in brain-computer interfaces
- Finetuned a feed-forward neural network to decode motor cortex signals from non-human primates, enabling accurate mapping from cortical activity to continuous finger movements

TEACHING EXPERIENCE

Graduate Student Instructor, University of Michigan

• **EECS 504: Graduate Computer Vision**, Robotics, Dr. Jason Corso

Aug 2023 – Dec 2023

• **EECS 442: Computer Vision**, Computer Science & Engineering, Dr. David Fouhey

Jan 2023 – Apr 2023

PROJECTS

Translating Cartoon to Natural Images using Stable Diffusion

Oct 2023 – Dec 2023

- Trained a latent diffusion model to unconditionally generate images across cartoon and natural image domains
- Incorporated BLIP, a pre-trained image captioning model, to guide the diffusion process based on semantic content

Brain Tumor Segmentation using an ensemble of 3D U-Nets

Oct 2022 - Dec 2022

- Implemented highly scalable 3D U-net, a deep CNN classifier, to segment tumor subregions
- Created an ensemble of models trained with different hyper-parameters, achieving a high dice score of 80.5%

Parkinson's Disease Progression Prediction

Feb 2023 - Apr 2023

- Developed a machine learning regression model to identify biomarkers using protein and peptide data
- Submitted the model with 63.4% sMAPE score to AMP PD program's prestigious Kaggle coding competition

LEADERSHIP & EXTRA-CURRICULAR

Head of Events, Udghosh - IIT Kanpur inter-collegiate sports meet

Jan 2017 – Oct 2017

Member, Athletics: represented IIT Kanpur and won 10+ medals in national meets

Sep 2014 – Mar 2018

REFERENCES

Sirisha Pendem (Adobe India)

spendem@adobe.com

Arun A V (Skellam AI)

arun@skellam.ai

Anand Joshi (University of Southern California)

ajoshi@usc.edu

Anne Draelos (University of Michigan)

adraelos@umich.edu

Swaprava Nath (IIT Bombay/Kanpur)

swaprava@cse.iitb.ac.in