

Siddharth Senthilkumar

Email | LinkedIn | Website

EDUCATION

University of Texas at Dallas

Master of Science in Bioinformatics and Computational Biology

Kumaraguru College of Technology

Bachelor of Technology in Biotechnology

Richardson, TX

Aug. 2022 - Dec. 2024

Coimbatore, India

Aug. 2018 - May 2022

PROJECTS

Rational Design of Bee-Safe Pesticides

- Architected a "negative design" framework using AlphaFold3 and Boltz-2.
- Co-opted drug design pipelines to generate novel pesticides harmless to bees.
- Targeted unique structural differences between species for rational molecule design.

Holistic AI Pipeline for Biological Data Processing

- Automated data processing into FAIR Parquet files with a scalable Nextflow pipeline.
- Applied Cell Ontology standards for systematic biological data annotation.
- Enabled downstream LLM fine-tuning with a machine-readable data foundation.

EXPERIENCE

Biotech Lab Intern

Biopunk Labs @ Frontier Tower

- Acted as technical liaison for biotech, AI, robotics, and longevity startups.
- Contributed to workflow design and operational setup for a community lab.
- Developed community outreach strategies to inculcate interest in biology.

June 2025 - Present

San Francisco, CA

Bioinformatician

New York Botanics, LLC

- Managed digital lab notebook systems to ensure data integrity and accessibility.
- Developed and maintained interactive data visualizations for internal research teams.
- Assisted in updating and managing web-based scientific content and presentations.

Apr. 2025 - Present

New York, NY

Science and Math Tutor

Tutoring Center

- Designed and implemented customized STEM lesson plans for students aged 6-16.
- Maintained consistent student achievement with 80%+ grade averages.
- Translated complex concepts into age-appropriate explanations.

Aug. 2023 - Sep. 2024

Plano, TX

Undergraduate Research Assistant

Kumaraguru College of Technology

- Achieved 85% accuracy in PCOS diagnosis with custom coded neural network.
- Created in silico docking models for aptamer applications.
- Facilitated research accessibility across language barriers.

Aug. 2021 - May 2022

Coimbatore, India

TECHNICAL SKILLS

Structural Biology & Modeling:

AlphaFold3, Boltz-2, RF Diffusion, PyTorch

Data Engineering & Workflow:

Nextflow, Docker, NixOS, FAIR Data Principles, Parquet, AWS

Languages & Core Libraries:

Python (Pandas), R (Tidyverse), SQL, Bash, Git

CORE COMPETENCIES

- Rational Molecule Design
- Structural Biology AI
- MCP-based Agent Design
- AI-Ready Data Architecture
- LLM Fine-Tuning
- Reproducible Computational Systems