Shahina K

Mobile: +91 9526825936 | +91 9400822555

Email: toshahina@gmail.com

Profile

With a strong foundation in both academic research and industry practice, I am eager to pursue roles that emphasize analytical thinking, problem-solving, programming expertise, and effective communication. I bring a collaborative mindset, resilience, intellectual curiosity, and a committed work ethic to every team I join.

Work Experience

- Computational Biologist – ThinkBio.Ai, Kerala, India (Oct 2024 – Present)

  Spatial Proteomics and Spatial Transcriptomics Data Analysis
  - Applied deep learning-based image segmentation and spatial mapping using foundation models such as MESMER, Cellpose, StarDist, UnMICST, InstanSeg, and CelloType.
  - Developed and optimized pipelines for preprocessing, normalization, and quality control of spatial omics data using Seurat, Scanpy, and Squidpy.
  - Integrated multi-modal spatial data to uncover biologically relevant patterns and cell-type distributions.
  - Visualized spatial data through interactive plots and heatmaps to support interpretation and hypothesis generation.
  - Collaborated with experimental teams to validate computational findings and refine spatial protocols.

- Bioinformatician – Massive Data Analytics, Kerala, India (Oct 2016 – Oct 2019)

  - Provided consulting on the analysis of high-throughput omics datasets including WGS, WES, RNA-Seq, and ChIP-Seq.
  - Designed and customized bioinformatics pipelines for non-standard experimental designs.
  - Delivered workshops on omics data analysis, covering preprocessing, alignment, quantification, and interpretation.
  - Collaborated with cross-functional teams to translate biological questions into computational strategies.

- Bioinformatics Intern – Khalifa University, Abu Dhabi, UAE (Mar 2018 – May 2018)

- Automated end-to-end NGS data analysis pipelines for WES.
- Integrated tools such as BWA, GATK, Picard, FastQC for variant calling, annotation, and QC.
- Authored comprehensive documentation for pipeline usage and troubleshooting.

Education

- Post Doctoral Fellow – University of Kerala, India (Mar 2024 – Sep 2024)
- PhD (Computational Biology and Bioinformatics) – University of Kerala, India (Nov 2019 – May 2024)
- MSc (Computational Biology) – University of Kerala, India (Oct 2014 – July 2016)
- BTech (Computer Science & Engineering) – Cochin University of Science & Technology, Kerala, India (Oct 2002 – Nov 2006)

Certifications

- Generative AI Engineering & Fine Tuning with Transformers (Coursera, 2025)
- Generative AI Language Modelling with Transformers (Coursera, 2025)
- Architecture Generative AI and LLMs: Architecture and Data Preparation (2025)
- Gen AI models for NLP & Language Understanding (Coursera, 2025)
- Introduction to Generative AI Learning Path Specialization (Coursera, 2025)
- Encoder-Decoder Architecture (Coursera, 2025)
- Deep learning with PyTorch: Image segmentation (Coursera, 2025)
- Deep Learning with PyTorch: Object Localization (2025)
- Basic Image Classification with TensorFlow (2025)
- Get Started with Python (Coursera, 2025)
- Introduction to Biology of Cancer (Coursera, 2025)
- Building Real-Time Video AI Application – NVIDIA DLI (2023)
- Getting Started with Deep Learning (2023)
- Genomic Variant Analysis & Clinical Interpretation – CSIR-IGIB, India (2022)
- NIH Clinical Research Training – NIH, UK (2018)
- IELTS – British Council, UAE (2013)
- Oracle Certified Associate – Oracle, UAE (2012)
- ITIL Foundation – Exin, UAE (2009)
- Microsoft Certified Professional – Microsoft, UAE (2009)

Skills

Programming: Python (Expert), Unix (Expert), Perl (Intermediate), C (Intermediate), R (Intermediate), Git (Intermediate)
Computational Expertise: Spatial Proteomics, Spatial Transcriptomics, WES Analysis, Bio-

sequence Image Analysis, Machine Learning, Deep Learning, Generative Adversarial Networks

Publications

- Shahina K, Biji C L, and Achuthsankar S. Nair. "A comparative study on the classification of SARS-CoV-2 variants from biosequence images using pre-trained deep learning models." International Journal of Bioinformatics Research and Applications, 19/02/2025.
- Biji C L; Anup Kumar Dagala; Manglam Goutam Sinha; N D Priyanka; Gayathri Dhanasekaran; Sruthi Suresh; K. Shahina; Achuthsankar S. Nair; K. K. Sabu; K. N. Anith. "Transcriptome sequencing and differential expression analysis in tolerant and susceptible clone of tomato following Ralstonia solanacearum infection." Physiological and Molecular Plant Pathology, 11/09/2024.
- Rashmi Sukumaran, Shahina K, Achuthsankar S. Nair. "RFGR: Repeat finder for complete and assembled whole Genomes and NGS Reads." Journal of Biochemical Genetics, Jan 2024.
- Dr. Bindu Roy, Aswathy C.S, Shahina K, Vinod M.P, Biji C.L; "Comparative transcriptomic analysis of rubber clones differing in disease tolerance provides novel insights into the disease response." South African Journal of Botany, March 2024.
- Paul Ann Riya et al. "HES1 promoter activation dynamics reveal the plasticity, stemness and heterogeneity in neuroblastoma cancer stem cells." Journal of Cell Science, 18/11/2022.