Akash Parvatikar

PhD Candidate,
Computational Biology

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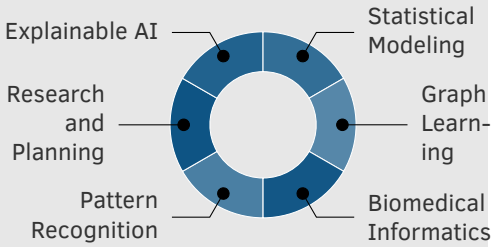
Indian

Interests



Programming Skills

Python, MATLAB, R	●●●●○
Java, C++, C	●●●○○
NLTK, OpenCV	●●●●○
ImageJ, QPath	●●●●○

Personal Skills

- Communication
- Problem Solving
- Flexibility
- Confidence
- Multitasking

Professional Experience

expected Spring '22 — **Graduate Student Researcher** — Prof. S. Chakra Chennubhotla's Lab
Investigate the intrinsic characteristics of biomedical images at multi-scale resolutions using statistical modeling, computer vision, machine learning, and graph-based deep learning techniques.

Fall '19 — **Graduate Teaching Assistant** — University of Pittsburgh
MSC 2065 Scalable Machine Learning for Big Data Biology.

Summer '18 — **Research Scientist Intern** — Oak Ridge National Laboratory (ORNL)
Developed computational tools to analyze high-throughput, low-resolution Cryo-Electron Microscopy images of biomolecules using RELION (Regularized Likelihood Optimization).

Summer '17 — **Research Scientist Intern** — Oak Ridge National Laboratory (ORNL)
Contributed in developing ANCA software (Anharmonic Conformational Analysis) as an extensible framework to characterize anharmonic events of complex protein fluctuations and enable a deeper analysis of their functional relevance.

Education

Sep '18 – present — **PhD candidate** — Joint Carnegie Mellon-University of Pittsburgh, Pittsburgh
Develop explainable computational pathology algorithms to understand the origins of diagnostic discordance in diagnosing a broad spectrum of breast lesions from digitized histopathology images.

2016 – 2018 — **MS, Information Science** — University of Pittsburgh, Pittsburgh

2012 – 2016 — **B.E., Electronics & Communication** — R.V. College of Engineering, India

Publications

2021 — **Prototypical models for classifying high-risk atypical breast lesions**
In 24^{th} International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI)

2021 — **Artificial intelligence techniques for integrative structural biology of intrinsically disordered proteins**
Current Opinion in Structural Biology, 66, 216-224

2020 — **Modeling Histological Patterns for Differential Diagnosis of Atypical Breast Lesions**
In 23^{th} International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI)

2018 — **ANCA: Anharmonic Conformational Analysis of Biomolecular Simulations**
Biophysical journal, 114(9), 2040-2043

Services

Jun '20 – now — **Member of Review Board** — Signal, Image and Video Processing Journal

Organizations

Sep '20 – now — **Diversity and Inclusion Committee Member** — University of Pittsburgh
Support department's efforts to attract and retain talented trainees and scientists from diverse socio-economic backgrounds, carrying diverse life experiences and perspectives

Dec '20 – now — **Digital Pathology Association (DPA)**

Dec '17 – now — **Career Mentor at Gradvine**
Mentored $50+$ students to help them craft a stellar, technically correct *Personal Statement* for graduate applications.