Saumya Gupta

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EDUCATION

Stony Brook University   Stony Brook, NY, USA
PhD in Computer Science, GPA: 4.00/4.00   *Aug. 2021 – Present*

National Institute of Technology Karnataka (NITK)   Surathkal, India
B.Tech in Computer Science and Engineering, GPA: 9.49/10.00   *Aug. 2014 – May 2018*

EXPERIENCE

Graduate Research Assistant   Aug 2021 – Present
Stony Brook University   *Stony Brook, NY*
- Topology-aware loss for multi-class medical image segmentation
- Structural uncertainty using topology and CRF

Graduate Teaching Assistant   Aug 2021 – May 2022
Stony Brook University   *Stony Brook, NY*
- TA for the undergraduate course Theory of Computation (CSE303)
- Conducted office hours, curated questions, and graded homework

Senior Software Engineer   July 2018 – Mar 2021
Samsung R&D Institute   *Bangalore, India*
- Replaced the existing ISP pipeline in Samsung Camera with a single light-weight CNN (Commercialization in Samsung Galaxy S21)
- Super-resolution of 3D Ultrasound ovarian volumes
- Implemented security measures to the DICOM platform to ensure the platform was HIPAA-compliant

Research Assistant   July 2017 – May 2018
NITK Surathkal   *Surathkal, India*
- Bachelor's thesis on Software Defined Networks (SDN)
- Minimized the time to detect faults in the network (silent blackhole detection)

Intern   May 2017 – July 2017
Samsung R&D Institute   *Bangalore, India*
- Used Vulkan to render a tile-based vertical scrolling approach to minimize the load on the GPU

PUBLICATIONS

Learning Topological Interactions for Multi-Class Medical Image Segmentation
Saumya Gupta, Xiaoling Hu, et. al.   *ECCV 2022 (Oral)*

Ovarian Assessment Using Deep Learning Based 3D Ultrasound Super Resolution
Saumya Gupta, Venkata Suryanarayana K., Srinivas R. Kudavelly   *SPIE 2021 (Oral)*

Currency Recognition System Using Image Processing
Vedasamhitha Abburu, ***Saumya Gupta****, S. R. Rimitha, Manjunath Mulimani, Shashidhar G. Koolagudi*   *IC3 2017*

SELECTED AWARDS

ECCV Travel Award   2022

Samsung Spot Award   2020, 2019

Samsung Quality Champions Annual Award   2018

Samsung Professional Level Software Certification   2018

Technical Skills

Languages: Python, C/C++, Java, PostgreSQL

Tools, Frameworks: PyTorch, Keras, TensorFlow 1 & 2, OpenCV, MATLAB, Visual Studio, LaTeX, Android Studio, Sony Vegas, Adobe After Effects, Photoshop, Procreate

Positions of Responsibility

Treasurer   2022 - Present
Women in PhD (WPhD) Club   *Stony Brook*

Volunteer Instructor   2018-2020
Learning & Development   *Samsung R&D Institute*

Joint Convenor   2016-2018
Media, Arts, and Creative Design (MACD) Club   *NITK, Surathkal*

Create Head   2017-2018
Indian Society for Technical Education (ISTE) Club   *NITK, Surathkal*