

Saurav Sengupta

CONTACT INFORMATION

Email: ss4yd@virginia.edu

EDUCATION

University of Virginia, Charlottesville, Virginia USA

PhD in Data Science, transferred 2023

PhD in Systems Engineering, 2020-2022

M.S. in Data Science, May 2019

Birla Institute of Technology and Science, Pilani, Goa, India

B.E. (Hons.) Electrical and Electronics Engineering, May 2016

EXPERIENCE

Graduate Research Assistant, University of Virginia

August, 2020 - present

PhD Mentors: Dr. Donald Brown, Dr. Sana Syed

- Working with [National COVID Cohort Collaborative \(N3C\)](#) on [analyzing temporal hospital records using deep learning](#) to predict risk factors contributing to a Long Covid diagnosis.
- Working on N3C queries regarding Long COVID as part of [Researching COVID to Enhance Recovery \(RECOVER\)](#).
- Developed deep learning model to classify Environmental Enteropathy (EE) in pediatric biopsies.

Research Scientist, University of Virginia

August, 2019 - July, 2020

Part of the [Gastroenterology Data Science Lab](#) working on developing deep learning methods for medical imaging applications.

- Classifying gastro-intestinal diseases (Crohn's, Celiac) using CNN models on high resolution biopsy images using PyTorch.
- Lab received the Litwin IBD Pioneers Program, Crohn's & Colitis Foundation grant based on work.

Associate Consultant, Capgemini, Hyderabad, India

August, 2016 - October, 2017

Developed REST APIs in Java for Development Bank of Singapore (DBS) using distributed cloud frameworks.

Trainee, STMicroelectronics, India

August, 2015 - December, 2015

Worked with team designing embedded neural network based ASIC writing code to interface Random Access Memory with I/O and buses. Also did design verification and synthesis.

PUBLICATIONS

Analyzing historical diagnosis code data from NIH N3C and RECOVER Programs using deep learning to determine risk factors for Long Covid, IEEE BIBM 2022

Saurav Sengupta, Johanna Loomba, Suchetha Sharma, Donald E Brown, Lorna Thorpe, Melissa A Haendel, Christopher G Chute, Stephanie Hong

Handwritten Text and Digit Classification on Rwandan Perioperative Flowsheets via YOLOv5, SIEDS 2022

Navya Annareddy, Kara Fallin, Ryan Folks, William Jarrard, Marcel Durieux, Nazanin Moradinab, Bhiken Naik, Saurav Sengupta, Christian Ndaribitse, Donald Brown

Identifying Pediatric Crohn's Disease Using Deep Learning to Classify Magnetic Resonance Enterography (MRE) Images, SIEDS 2021

Marissa Shand, Joseph Manderfield, Surbhi Singh, Clair McLafferty, Yash Sharma, Saurav Sengupta, Philip Fernandes, Dionysios Koroulakis, Sana Syed, Donald E Brown

Machine learning for crohn’s disease phenotype modeling using biopsy images, Inflammatory Bowel Diseases 27, no. Supplement1 2021 S10-S11.

Sana Syed, Saurav Sengupta, Lubaina Ehsan, Erin Bonkowski, Christopher Moskaluk, Anne Griffiths, Anthony Otley et al.

Artificial Intelligence-Based Analytics for Diagnosis of Small Bowel Enteropathies and Black Box Feature Detection. , Journal of Pediatric Gastroenterology and Nutrition (2021))

Sana Syed, Lubaina Ehsan, Aman Shrivastava, Saurav Sengupta, Mariam Khan, Kamran Kowsari, Shan Guleria et al.

Deep Learning for Visual Recognition of Environmental Enteropathy and Celiac Disease (BHI 2019)

Aman Shrivastava, Karan Kant, Saurav Sengupta, Sung-Jun Kang, Mariam Khan, S. Asad Ali, Sean R. Moore et al.

Deep Learning for Detecting Diseases in Gastrointestinal Biopsy Images (SIEDS 2019)

Aman Srivastava, Saurav Sengupta, Sung-Jun Kang, Karan Kant, Mariam Khan, S. Asad Ali, Sean R. Moore et al.

Mo1992– Solving the Stain Dilemma: Computational Image Analysis to Address Differential Tissue Staining Color Bias in Duodenal Biopsies (Gastroenterology)

Sana Syed, Aman Shrivastava, Karan Kant, Saurav Sengupta, Luke Kang, Mariam N. Khan, Najeeha T. Iqbal et al.

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| TECHNICAL SKILLS | <ul style="list-style-type: none">• Languages: Python, R, Java 7 (Oracle Certified Associate), C, Verilog• Packages/Tools: PyTorch, Keras, pandas, numpy, scikitlearn, scipy, caret(R), RShiny, TensorFlow, GitHub, Jenkins, AWS EC2, PySpark, Pivotal Cloud Foundry• Database: MySQL, MariaDB• Operating Systems: Windows, Linux |
| VOLUNTEER WORK | <ul style="list-style-type: none">• Participated in projects to generate employment and self-help services for women from impoverished neighbourhoods in Zuarinagar, Goa as part of Nirmaan Organization.• Deputy Event Manager-Joy of Giving Week 2013 BITS Pilani, Goa Campus. |