

Srijay Deshpande, PhD

[GitHub](#) | [LinkedIn](#) | [ORCID](#) | deshpandesrijay@gmail.com | [+447747247409](tel:+447747247409)

PROFESSIONAL SUMMARY

I am a dedicated researcher working with the vision of developing and nurturing innovative solutions that could transform the lives of people deprived of healthy lives. With a strong foundation in modern machine learning, deep learning, computer vision, I am focused on pioneering advancements in this field. My tenure at the University of Warwick saw me spearheading AI-driven analysis of medical multi-gigapixel images through novel computer vision methods. While working as a Data Scientist at Microsoft, I worked with the Bing Ads team on improving the information retrieval performance of sponsored search using novel NLP techniques. I believe that AI has the potential to create an impact on the health of people and I am determined to drive the change that is needed.

CORE COMPETENCIES

Deep Learning / Machine Learning, Computer Vision, Natural Language Processing
Medical Image Analysis, Segmentation, Image Generation, Information Retrieval
Algorithms, Competitive Programming

SKILLS

LANGUAGES	Python, C, C++, C#, Java, Bash, Ruby, SQL
FRAMEWORKS	Tensorflow, Keras, Pytorch, Scikit, .NET, Ruby on Rails
SOFT SKILLS	Leadership, Public Speaking

EXPERIENCE

APRIL 2023 -CURRENT	<p>Research Fellow (one year contract), Tissue Image Analytics Centre, University of Warwick, UK</p> <ul style="list-style-type: none">• The research topic is cancer prediction using pathology images and analysis of bioinformatics data.• Working on the development of biomedical informatics solutions for the understanding and diagnosis of cancer. The research involves systematic analysis of tumors and their genomic profiling.
SEPTEMBER 2019 -AUGUST 2023	<p>Researcher (PhD), Tissue Image Analytics Centre, University of Warwick, UK</p> <ul style="list-style-type: none">• Developed Generative Adversarial Network (GAN) based deep neural frameworks to generate realistic histology images and thereby improve the training efficiency of downstream prediction tasks in computational pathology (CPath) like cancer detection, cellular composition prediction, and gland segmentation, especially when available data is limited• Built deep learning pipelines based on ResNet and Inception neural networks to process the information-rich multi-gigapixel digitized whole-slide pathology images for the tasks of tumor segmentation and HER2 status prediction in CPath• Worked in the team for developing TIAToolBox, a toolbox for the end-to-end deployment of AI algorithms in CPath
JULY 2017- SEPTEMBER 2019	<p>Data Scientist, Microsoft India</p> <ul style="list-style-type: none">• Implemented neural models like CLSM and fastText to improve the performance of sponsored search on the Bing platform and deployed the models in UK, IN, and AU markets• Innovated novel NLP-based information retrieval model for ad hoc Ads Retrieval which improved the quality of the retrieved ads and also played a vital role in upgrading the infrastructure of the Bing Ads retrieval system• Developed back-end APIs using .NET framework for the Small and medium businesses team under Office 365
MAY 2014- JULY 2014	<p>Software Developer Intern, Amazon India.</p> <ul style="list-style-type: none">• Developed a web tool titled "Bulk Download Tool for CreditNotes" using Ruby on Rails to collect a large number of documents (credit notes) from storage• The tool takes a list of document IDs as input and fetches the corresponding documents, compresses them, and returns the compressed document for downloading, in real-time

EDUCATION

SEPTEMBER 2019- AUGUST 2023	PhD in Computer Science University of Warwick Thesis: Generative AI for Computational Pathology Advisor: Prof. Nasir Rajpoot
JULY 2015- JUNE 2017	Master of Technology in Computer Science Indian Institute of Technology, Bombay Thesis: Improving Non-Compositionality Detection and Noun Compounds Relational Classification using Deep Learning Advisor: Prof. Soumen Chrabarti GRADE POINTS: 9.52/10
JULY 2011- JUNE 2015	Bachelor of Technology in Computer Science Visvesvaraya National Institute of Technology, Nagpur Thesis: Query Optimization using Predictive View Sets Advisor: Prof. P S Deshpande GRADE POINTS: 8.80/10

MAJOR PUBLICATIONS

DEC 2021	Deshpande, S., Minhas, F., Graham, S., & Rajpoot, N. (2021). SAFRON: Stitching Across the Frontier Network for Generating Colorectal Cancer Histology Images. Medical image analysis, 77, 102337. Advance online publication
DEC 2021	Pocock, J., Graham, S., Vu, Q. D., Jahanifar, M., Deshpande, S., Hadjigeorgiou, G., Shephard, A., Bashir, R. M. S., Bilal, M., Lu, W., Epstein, D., Minhas, F., Rajpoot, N. M., & Raza, S. E. A. (2022). TIAToolbox as an end-to-end library for advanced tissue image analytics. In Nature Communications Medicine (Vol. 2, Issue 1). Springer Science and Business Media LLC
APRIL 2019	Thakare, Atul & Deshpande, Sri Jay & Kshirsagar, Amit & Deshpande, Parag. (2019). Mining Query Plans for Finding Candidate Queries and Sub-Queries for Materialized Views in BI Systems Without Cube Generation. Computing and Informatics
JULY 2017	Bhushan, A., Bellur, U., Sharma, K., Deshpande, S., & Sarda, N.L. (2017). Mining Swarm Patterns in Sliding Windows over Moving Object Data Streams. Proceedings of the 25th ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems

HONORS & AWARDS

JANUARY 2022	Nominated and selected among 5 participants from the University of Warwick and selected to participate in a small group discussion session with 2019 Nobel Prize Winner in Physics, Prof. Didier Queloz at the Global Young Scientists Summit (GYSS) 2022, Singapore
JANUARY 2021	Secured a runner up position in the Hackathon held during the PathLake MasterClasses in London by showing top performance in the mutation prediction of type M3 in the cell lung cancer histopathology images. The program "PathLAKE Masterclass: Data Science for Computational Pathology" was held by the Department of Computer Science, University of Warwick in January 2020 where I participated as a teaching assistant
JUNE 2017	Ranked in Top 10 among 100+ students in the MTech (masters) at IIT-Bombay
MAY 2017	Awarded as Best AURAA (Academic Unit Representative for Academic Affairs) at IIT Bombay
JUNE 2015	Ranked in Top 10 among 100+ students in the BTech (bachelors) at NIT-Nagpur
MARCH 2015	Secured All India Rank 12 among \approx 840K candidates in GATE-2015
OCTOBER 2014	Qualified for ACM-ICPC Amritapuri Regionals Finals , the competitive coding contest, and represented NIT-Nagpur at the onsite round
MARCH 2011	Secured AIR 3005 in AIEEE-2011 out of more than 1.1 million students all over country

INVITED CONFERENCES

17 JUNE 2022	ECDP, Germany: Delivered an oral presentation on my work at the 18 th European Congress on Digital Pathology 2022, Berlin, Germany
15 APRIL 2022	Cancer Virtual Conference 2022: Invited as a keynote speaker at “International Virtual Conference on Cancer Science & Oncology”
5 APRIL 2022	BMVA, Manchester: Presented an oral presentation on my PhD work at the British Machine Vision Association 2021
17-21 JAN 2022	10 th Global Young Scientists Summit (GYSS), Singapore: Selected among 5 participants from the University of Warwick
14 DECEMBER 2021	Medical Imaging meets NeurIPS Workshop (MedNeurIPS): Presented a poster on paper titled “Synthesis of Colon Cancer Tissue Images from Glandular Structure Layout”
4 OCTOBER 2020	SASHIMI Workshop, MICCAI-2020: Presented a poster on “Train Small, Generate Big: Synthesis of Colorectal Cancer Histology Images”