Tejal Singh

Machine Learning Engineer

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Education

Indian Institute of Technology Roorkee — *Roorkee, India*

Bachelor of Technology | Computer Science & Engineering — *July 2014 - May 2018*

Patents & Publications

- Tejal Singh et al., *Deep learning based fetal face detection and visualization in prenatal ultrasound*, IEEE International Symposium on Biomedical Imaging, 2021. (https://ieeexplore.ieee.org/document/9433915)
- Tejal Singh et al., *An approach for live motion correction for TRUS-MR prostate fusion biopsy using deep learning*, IEEE Engineering in Medicine and Biology Society, 2021. (https://ieeexplore.ieee.org/abstract/document/9630254)
- Primary inventor of Patent Strategy filed in Indian Patent Office titled "*Method and device for guided fetal scan and visualization from 3D/4D ultrasound imaging*".

Experience

Agoda Information Technology Services India Private Limited — *Gurugram, India*

Machine Learning Engineer — *Oct 2021 - Present*

- Developed a completely automated in house solution for machine learning model deployments using fastapi and mlflow while working in Agoda's data science efficiency team.
- Working on developing large scale machine learning pipelines for managing content on Agoda's booking platforms.

Samsung Research Institute Bangalore — *Bangalore, India*

Senior Software Engineer — *Jan 2020 - Oct 2021*

- Developed a novel fetal face detection and segmentation algorithm from 3D ultrasound volumes. Designed a 2-stage deep learning based proof of concept. Based on this work, a patent strategy has also been filed for a workflow of prenatal diagnosis and detection of fetal anomalies.
- Developed a framework for TRUS (transrectal ultrasound)-MRI (Magnetic Resonance Imaging) prostate fusion biopsy using an end-to-end deep learning network.

Software Engineer — *June 2018 - Dec 2019*

- Developed a deep learning based solution to segment prostate in MRI images. The developed solution has been integrated in the fusion biopsy workflow of Samsung ultrasound systems.
- Improved a deep learning based application to segment knee cartilage in 3D MRI images which was essential for improving the performance of advanced knee osteoarthritis (OA) assessment due to its convoluted 3D structure.

Samsung Research Institute Bangalore — *Bangalore, India*

Software Engineering Intern — *May 2017 - July 2017*

- Developed a machine learning system while working in the multimedia services team to predict quality of 3D reconstruction from low level image features.

Skills

Computer Languages Python, C++, C, Java

Tools & Frameworks PyTorch, Spark, Kubernetes, Tensorflow, Keras, Visual Studio

Web Technologies HTML, CSS, Javascript, Django