|  |  |  |  |
| --- | --- | --- | --- |
| **Soumen Basu** | | | |
| Vision and Graphics Lab,  405 Bharti Building, IIT Delhi  Hauz Khas, New Delhi 110016, India | | Email: [soumen.basu@cse.iitd.ac.in](mailto:soumen.basu@cse.iitd.ac.in)  Web: <https://www.cse.iitd.ac.in/~soumen>  Phone: +91-9051501506 |
| **Research**  **Interests** | * Computer Vision, Deep Learning * Medical Image Analysis, AI in Healthcare * Deep Learning with Limited Supervision * Self/weakly/un-supervised Learning * Explainable AI | | |
| **Education** | **PhD, Computer Science and Engineering**  Indian Institute of Technology, Delhi, India  Thesis Advisor: Prof. Chetan Arora  July 2019 – December 2023  **Masters (M. Tech), Computer Science and Engineering**  Indian Institute of Technology, Delhi, India  July 2013 – June 2015 | | |
| **Publications** | 1. S. Basu, M. Gupta, P. Rana, P. Gupta and C. Arora. “*Surpassing the Human Accuracy: Detecting Gallbladder Cancer from USG Images with Curriculum Learning*”. IEEE/CVF **CVPR 2022**. 2. S. Basu, S. Singla, M. Gupta, P. Rana, P. Gupta and C. Arora. “*Unsupervised Contrastive Learning of Image Representations from Ultrasound Videos with Hard Negative Mining*”. **MICCAI 2022**. 3. S. Basu, M. Gupta, P. Rana, P. Gupta and C. Arora. “*RadFormer: Transformers with Global-Local Attention for Interpretable and Accurate Gallbladder Cancer Detection*”. **Elsevier Medical Image Analysis** (Impact Factor: 13.8), **January, 2023**. 4. S. Basu, A. Papanai, M. Gupta, P. Gupta and C. Arora. “*Gallbladder Cancer Detection from US Images with Only Image Level Labels*”. **MICCAI 2023** (Accepted). 5. M. Gupta, S. Basu and C. Arora. “*How reliable are the metrics used for assessing reliability in medical imaging?*”. **MICCAI 2023** (Accepted). | | |
| **Work**  **Experience** | * ***Applied Scientist Intern***   Amazon India  July 2023 – Current   * ***Doctoral Researcher***, and Prime Minister’s Research Fellow (Government of India)   Indian Institute of Technology Delhi.  July 2019 – Current   * ***Research Assistant***, Department of Computer Science and Engineering,   The Pennsylvania State University, USA  August 2018 – May 2019   * ***Member of Technical Staff***   Adobe Systems India, Bangalore  July 2015 – July 2018 | | |
| **Course**  **Projects** | * Automated X-Ray report generation from X-Ray images * Segmentation of Surgical Tools in Endoscopy Images * Object Detection for Anti-Poaching Aerial Patrolling of Protected Areas * Text Object Detection from Signboards * Automated digitization of hand-written forms | | |
| **Services** | * Program Committee Member at AAAI 2023 * Reviewer at CVPR 2023 * Reviewer at IPCAI 2023 * Reviewer at ICCV 2023 | | |
| **Awards** | * Recipient of MICCAI 2022 Student Travel Award * CVPR 2022 Travel Grant * Recipient of the prestigious Prime Minister’s Research Fellowship, Government of India. * Recipient of Alumni Doctoral Grant, Department of Computer Science, IIT Delhi * Winner (2nd position) in ICVGIP 2020 Object Detection Challenge | | |
| **Skills** | * Python, PyTorch, OpenCV, Keras, Scikit-learn * Computer Vision, Deep Learning, Git, Bash, Flask, Latex | | |
| **References** | * Prof. Chetan Arora, Professor, IIT Delhi (PhD supervisor) * Dr. Pankaj Gupta, Associate Professor, PGIMER Chandigarh | | |