

Shubhra Aich

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EDUCATION

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- **University of Saskatchewan** Saskatoon, Canada
Master of Science in Computer Science *Jan 2017 – May 2019*
 - **Chonnam National University** Gwangju, South Korea
Master of Engineering in Electronics and Computer Engineering *Sep 2014 – Aug 2016*
 - **Bangladesh University of Engineering and Technology** Dhaka, Bangladesh
Bachelor of Science in Electrical and Electronic Engineering *Jan 2008 – Dec 2012*

EXPERIENCE

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- **Honda R&D Innovation Lab Tokyo (HIL-TK)** Akasaka, Tokyo, Japan
Computer Vision and Applied Machine Learning Intern *June 2018 - May 2019*
 - **Samsung R&D Institute Bangladesh (SRBD)** Dhaka, Bangladesh
Software Engineer *Apr 2013 - Aug 2014*

TECHNICAL SKILLS

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- **Languages:** Python, MATLAB, C/C++, Lua, R
 - **Toolkits:** PyTorch, Torch, OpenCV, scikit-learn, scikit-image, pandas, git

PROJECTS

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- **Object Counting with Deep Learning (Ongoing):** Counting object instances from images.
 - **Object Detection and Segmentation (Internship):** Developing simultaneous, high-precision object detection and segmentation algorithms for a particular future robotic system.

RESEARCH INTERESTS

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- | Applied Machine Learning | Computer Vision | NLP Aided Visual Learning | Artificial General Intelligence |

PUBLICATIONS

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- **S. Aich et al.** MSNet *under review CVPR 2019*.
 - **S. Aich**, and I. Stavness. Object Counting with Small Datasets of Large Images. [ArXiv](#)
 - **S. Aich**, ... Semantic Binary Segmentation using Convolutional Networks without Decoders. *DeepGlobe CVPR 2018*. [Paper](#) [Code](#)
 - **S. Aich**, and I. Stavness. Improving Object Counting with Heatmap Regulation. [ArXiv](#) [Code](#)
 - **S. Aich et al.** DeepWheat: Estimating Phenotypic Traits from Crop Images with Deep Learning. *WACV 2018*. [ArXiv](#) [Code](#)
 - **S. Aich**, ... Leaf Counting with Deep Convolutional and Deconvolutional Networks. *Workshop ICCV 2017 (Oral)*. [Paper](#) [Code](#)
 - **S. Aich**. Recognition of Flower Species using Visual Vocabulary of Compound Descriptors. *Masters Thesis, 2016*. [PDF](#) [Code](#)
 - **S. Aich**, and C-W. Lee. A General Vocabulary Based Approach for Fine-Grained Object Recognition. *PSIVT, 2015*. [Link](#) [Code](#)

SELF-DRIVEN PROJECTS

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- **(Kaggle) Carvana Image Masking:** High resolution car image segmentation (binary) problem. Ranked 18/735 (Top 3%).
 - **(Kaggle) Cdiscount's Image Classification:** Large-scale e-commerce image classification challenge over 5270 categories. The training and the test datasets comprise 12M images and 1.7M products, respectively. Ranked 103/627 (Top 17%).
 - **(Kaggle) Human Protein Atlas Image Classification:** Retrieval of protein categories (out of 27) from 4-channel images. Unlike typical image classification, each image contains variable number of categories. Ranked 369/2172 (Top 17%).
 - **(Kaggle) TensorFlow Speech Recognition:** Classification of speech signal over 10 different categories. Finished in top 27%(351/1315).

AWARDS

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- **Microsoft Azure AI for Earth:** Awarded 10K USD equivalent HPC hours for agricultural vision projects.
 - **PyTorch Scholarship Challenge and Deep Learning Nanodegree from Facebook (Udacity):** Awarded 2 scholarships (tuition fees) for PyTorch based deep learning Nanodegree in the MOOC platform Udacity.

MOOC VERIFIED COURSES

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- **Udacity:** | Deep Reinforcement Learning Nanodegree | Deep Learning Nanodegree (Ongoing) |
 - **Coursera:** | Deep Learning Specialization (Andrew Ng) | Machine Learning by University of Washington | The Data Scientist's Toolbox | Algorithms by UC San Diego | Synapses, Neurons and Brains by Hebrew University of Jerusalem |
 - **Stanford Online:** | Statistical Learning |
 - Links to all the **Verified Certificates**