Shariq Farooq Bhat

Deep Learning Research

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scholar.google.com/citations?user=nGbEcI8AAAAJ

Education

2020–Present MS+Ph.D. **Computer Science, Visual Computing Centre**, *King Abdullah University of Science and Technology (KAUST)*.

2014–2018 Bachelor of technology **Electronics & Communication Engineering**, *National Institute of Technology (NIT)*, Srinagar, *CGPA - 8.912/10, Class rank - 5/76*.

Experience

June 2022 – Nov 2022 (6 months) **AI Research intern**, Intel, Munich, Germany.
- Focus Areas: Computer Vision, Depth Estimation
- Most proud of: Proposed novel architecture for depth estimation with 20% improvement over state-of-the-art
- Key tech: Python, PyTorch

July 2018 – Jan 2020 (1 yr 7 months) **Deep Learning Engineer**, Harman International, A Samsung Company, Bangalore.
- Focus Areas: Computer Vision, Natural Language Processing
- Most proud of: Won Innovation Award within first three months of employment
- Key tech: Python, PyTorch, Tensorflow, Keras, D3.js

May 2017 – June 2018 (1yr 1 month) **Data Scientist**, Prakshep, Bangalore, An Agri Startup.
- Focus Areas: GeoSpatial Analysis, Machine Learning, Data Visualization
- Most proud of: Developed 8+ proprietary algorithms independently
- Key tech: Python, R, SciPy stack

Nov 2016 – Aug 2017 (1yr 2 months) **Machine Learning Research**, Indian Institute of Science (IISc), Bangalore.
- Focus Areas: Computer Vision; Convolutional Neural Networks, Semantic Segmentation
- Most proud of: Proposed a deep learning model that out-performed all traditional techniques in road extraction from UAV imagery.
- Key tech: Python, Tensorflow, Keras

First Author Publications

Title ***ZoeDepth**: Zero-shot transfer by combining Relative and Metric depth*

Description Achieved state-of-the-art in Depth Estimation with a breakthrough 20% improvement. Currently in review.

Title ***AdaBins**: Depth Estimation using Adaptive Bins*

Description Poster acceptance at **CVPR 2021**. Achieved state-of-the-art in Depth Estimation. First to use Transformers for dense prediction. Ranked #1 across several global leaderboards (NYU-Depth-v2, KITTI)

Title ***LocalBins**: Improving Depth estimation by learning local distributions*

Description Poster acceptance at **ECCV 2022**. Achieved state-of-the-art in Depth Estimation. Ranked #1 across several global leaderboards (NYU-Depth-v2)

Title ***UFCN**: a fully convolutional neural network for road extraction in RGB imagery acquired by remote sensing from an unmanned aerial vehicle*

Description Published in Journal of Applied Remote Sensing (JARS), SPIE. Achieved state-of-the-art results in road extraction using proposed UFCN architecture and justified use of UAVs for dense road extraction

Other Publications

Title *Self-Supervised Learning of Domain Invariant Features for Depth Estimation (**WACV**)*

Akada, H., Bhat, S.F., Alhashim, I. and Wonka, P., 2022. In Proceedings of the IEEE/CVF Winter Conference on Applications of Computer Vision (pp. 3377-3387).

Title ***Sketchgen:** Generating constrained cad sketches. (**NeurIPS**)*

Para, W., Bhat, S., Guerrero, P., Kelly, T., Mitra, N., Guibas, L. J., Wonka, P. (2021). Advances in Neural Information Processing Systems, 34, 5077-5088.

Achievements & Awards

Sept 2018 **Innovation Award**, Harman International.
For implementing gap analysis using AI, effectively cutting down costs for the organization by atleast 0.1M USD by the end of Product cycle. *(Click here for reference)*

2012 **Gold medalist - Mathematical Talent Hunt test**.
Ranked 1st among 15,000 candidates in the mathematical test involving Aptitude, Calculus, Probability and Statistics

2012 **Qualified NSEP 2012**, National Standard Examination in Physics.
Ranked among top 10%

2013 **Ranked 1st in Kashmir Division**, Jammu Kashmir Common Entrance Test.
among 24,000 candidates

2014 **Ranked among top 1%**, Jee mains.
Examination had over 1.3 million applicants

Top Skills

Areas of Expertise Machine Learning, Deep Learning, Computer Vision, 3D Vision, Data Visualisation

Programming Languages Python, C++, JavaScript, R

Projects

- (CV) Depth Estimation using Transformers *GitHub link*
- (CV) Road extraction using proposed UFCN *GitHub link*
- (NLP) Twitter Sentiment Analysis *GitHub link*
- (CV) Non-Invasive gesture control using RGB camera *Youtube link*
- (CV) Action Recognition using deep learning
  - Makes use of proposed 2D+1D learning technique in CNNs
  - Aims to solve problems of national importance including Street riots, molestations, robberies etc

Organizations

May 2017 – Present **Innovation Forum of Kashmir** *Member*

May 2017 – Present **Innovation Incubation Entrepreneurship Development Centre - NIT SRINAGAR** *Member*

Blog

A blog about Data Science & Machine learning *medium.com/@shariqfarooq00*