Joseph K J

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Research Interests

Computer Vision, Deep Learning, Machine Learning.

Education

Indian Institute of Technology (IIT), Hyderabad
M. Tech + PhD Dual Degree in Computer Science and Engineering
Advisor: Dr. Vineeth N Balasubramanian
9.24 / 10
Jan 2017 - present

Government Engineering College (RIT), Kottayam
B. Tech. in Computer Science and Engineering
80.43 %
May 2013

Loyola School, Trivandrum
Indian School Certificate (ISC), Class 12
92.93 %
March 2009

Loyola School, Trivandrum
Indian Certificate of Secondary Education (ICSE), Class 10
93.00 %
March 2007

Research Experience

- **Research Internship, Harada Lab, University of Tokyo, Japan**. June - July 2018
  I explored areas related to multi-modal modeling, specifically on generating images that are semantically aligned with textual descriptions about it.
- **Graduate Research Assistant, IIT Hyderabad**. Jan 2017 - June 2018.
  I worked on Deep Learning based solutions for visual detection and recognition from Unmanned Aerial Vehicles. The research was supported by DRDO, Government of India.

Publications

● 2019 ●

1. K J. Joseph, V. Teja, K. Singh, V. Balasubramanian, Submodular Batch Selection for Training Deep Neural Networks, 28th *International Joint Conference on Artificial Intelligence*, **IJCAI 2019**, *Macao, China.*
   (Also presented orally at *Negative Dependence in ML Workshop, International Conference on Machine Learning*, **ICML-W 2019**, *Long Beach, USA*.) [Link]

2. K J. Joseph, A. Pal, S. Rajanala, V. Balasubramanian, C4Synth: Cross-Caption Cycle-Consistent Text-to-Image Synthesis *IEEE Winter Conference on Applications of Computer Vision*, **WACV 2019**, *Hawaii, USA.* [Link]

● 2018 ●

3. K J. Joseph, V. Balasubramanian, MASON: A Model AgnoStic ObjectNess Framework, *International Workshop On Autonomous Navigation in Unconstrained Environments, European Conference on Computer Vision*, **ECCV-W 2018**, *Munich, Germany.* [Link]

4. Pengfei Zhu, Longyin Wen et al., VisDrone-DET2018: The Vision Meets Drone Object Detection in Image Challenge Results, *European Conference on Computer Vision, Workshop Proceedings*, **ECCV-W 2018**, *Munich, Germany.* [Link]

5. K J. Joseph, A. Pal, S. Rajanala, V. Balasubramanian, Zero-Shot Image Generation by Distilling Concepts from Multiple Captions, *Towards Learning with Limited Labels Workshop, International Conference on Machine Learning*, **ICML-W 2018**, *Stockholm, Sweden.* [Link]

Work Experience

- **Senior Software Engineer, Oracle Corporation,** July 2016 - Dec 2016.
  Developer at Oracle PeopleSoft Cloud Manager product team. Contributed to design, coding, implementation and UX of the product.
- **Software Engineer, Oracle Corporation,** June 2013 - July 2016.
  As part of Oracle Peoplesoft Platforms team, I handled PeopleTools Push Notification Framework, PeopleTools Automated Configuration Management Framework and PeopleSoft Internet Architecture.

Research Forums Attended

- Conferences: ECCV 2018, ICVGIP 2018, WACV 2019, IJCAI 2019
- International Computer Vision Summer School - ICVSS 2019, Sicily, Italy.
- Microsoft Academic Research Summit: 2018, 2019
- Amazon Research Days 2019

Achievements

- Awarded TCS Research *PhD Fellowship 2019*.
- *Honorable Mention* for our essay submission at ICVSS 2019, Italy.
- Awarded *Microsoft Research Travel Grant* and *ACM-India/IARCS Grant* to present our work at IJCAI 2019.
- Awarded *Certificate of Appreciation in Research* from IIT Hyderabad in March 2019.
- Awarded cash prize for being top 20% of participants at 'Summer School on Computer Vision: 2017', CVIT, IIIT Hyderabad.
- Runner up for *Best Student Project Contest 2013* organized by the Computer Society of India, Trivandrum Chapter.
- Placed in top 500 teams globally, in the International IEEE Xtreme Programming Competition, 2010.

Service

- IEEE Transactions on Multimedia Reviewer
- IEEE CVPR Sub-reviewer: 2019
- IEEE ICCV Sub-reviewer: 2017
- ICVGIP / NCVPRIPG Reviewer: 2018, 2019
- IEEE WACV Sub-reviewer: 2018, 2019
- IJCAI Sub-reviewer: 2018, 2019

Skills

- Languages: Python, Java, C, JavaScript
- Libraries and Tools: Numpy, Scipy, scikit-learn, OpenCV, Caffe, TensorFlow, PyTorch
- Miscellaneous: Shell Scripting, Dockers, Node.js, Hybrid Mobile App development, Git, ClearCase

Relevant Courses

- CS6510 Applied Machine Learning
- CS5370 Deep Learning for Vision
- CS6230 Optimization Methods in ML
- CS5350 Bayesian Data Analysis
- CS6440 Special Topics in Machine Learning
- CS6010 Advanced Data Structures and Algorithms

Positions / Responsibilities

- Founding Secretary of IEEE Computer Society, RIT Chapter.
- Chief Editor of Click!, the half yearly publication of IEEE Computer Society, RIT Chapter.
- Facilitator at Fun@Work, an Oracle Volunteer initiative.

References

- Dr. Vineeth N Balasubramanian, Associate Professor, Department of Computer Science & Engineering, IIT Hyderabad, Sangareddy, Telangana - 502285, India. E-mail: vineethnb@iith.ac.in
- Dr. Srijith P K, Assistant Professor, Department of Computer Science & Engineering, IIT Hyderabad, Sangareddy, Telangana - 502285, India. E-mail: srijith@iith.ac.in