

# Joseph K J

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## Research Interests

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Computer Vision, Deep Learning, Machine Learning.

## Education

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| Indian Institute of Technology (IIT), Hyderabad               | 9.24 / 10                 |
| M. Tech + PhD Dual Degree in Computer Science and Engineering | <i>Jan 2017 - present</i> |
| Advisor: Dr. Vineeth N Balasubramanian                        |                           |
| Government Engineering College (RIT), Kottayam                | 80.43 %                   |
| B. Tech. in Computer Science and Engineering                  | <i>May 2013</i>           |
| Loyola School, Trivandrum                                     | 92.93 %                   |
| Indian School Certificate (ISC), Class 12                     | <i>March 2009</i>         |
| Loyola School, Trivandrum                                     | 93.00 %                   |
| Indian Certificate of Secondary Education (ICSE), Class 10    | <i>March 2007</i>         |

## Research Experience

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- **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.
- **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

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• 2019 •

1. K J. Joseph, V. Teja, K. Singh, V. Balasubramanian, Submodular Batch Selection for Training Deep Neural Networks, 28<sup>th</sup> *International Joint Conference on Artificial Intelligence, IJCAI 2019, Macao, China.* (to appear in August 2019)
2. K J. Joseph, V. Teja, K. Singh, V. Balasubramanian, Submodular Batch Selection for Training Deep Neural Networks, *Negative Dependence in ML Workshop, International Conference on Machine Learning, ICML-W 2019, Long Beach, USA.* (to appear in June 2019)
3. 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 •

4. 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]
5. 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]
6. 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

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- **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.

## Skills

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- 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

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- 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

## Research Forums Attended

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- Conferences: ECCV 2018, ICVGIP 2018, WACV 2019
- International Computer Vision Summer School - **ICVSS 2019**, Sicily, Italy. (Upcoming in July)
- Microsoft Academic Research Summit: 2018, 2019
- Indian Machine Learning and Computer Vision Summer School, 2017.

## Service

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- IEEE CVPR Sub-reviewer: 2019
- IEEE ICCV Sub-reviewer: 2017
- IEEE WACV Sub-reviewer: 2018, 2019
- IJCAI Sub-reviewer: 2018, 2019
- ICVGIP Reviewer: 2018

## Achievements

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- Awarded *Microsoft Research Travel 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.

## Positions / Responsibilities

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- 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

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- 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