# DANDA SAI KOTI REDDY

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**OFFICE ADDRESS**

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**RESEARCH INTERESTS**

**AI Theory:** Reinforcement Learning, Stochastic Control and Optimization,
**AI Applications:** Smart grids and Autonomous UAV control
**Blockchain Applications:** Supply Chain Finance, Compliance and AI for Blockchain

**EDUCATION**

**M.Sc.(Engg).** [Aug 2014 - May 2017]
Department of Computer Science and Automation (CSA),
Indian Institute of Science (IISc), Bangalore, India.
**Reseach Supervisor:** Prof. Shalabh Bhatnagar.
**Thesis title:** Stochastic Newton methods with enhanced Hessian estimation.

**B.Tech.** [2008 - 2012]
Information Technology,
NRI Institute of Technology, Guntur, A.P,
Affiliated to Jawaharlal Nehru Technological University, Kakinada, A.P, India.

**PROFESSIONAL EXPERIENCE**

- **Software Engineer** in IBM India Research Lab (IRL), Bangalore, Jul 2017 - Present.
- **Project assistant** in Robert Bosch Center for Cyber Physical Systems, Bangalore
  Dec 2016 - Jun 2017.
  **Project Title:** Distributed Multi-Agent Algorithms for Dynamic Control of Microgrids.
- **Summer Intern** in IBM India Research Lab (IRL), Bangalore, May-Nov, 2016.
  **Project Title:** Use-cases on Blockchain.

**PROGRAMMING SKILLS**

C, C++, Java, MATLAB, Go, MEAN Stack

**CONFERENCE PUBLICATIONS**

- **D. Sai Koti Reddy** Amrita Saha, Srikanth G Tamilselvam, Priyanka Agrawal and Pankaj Dayama,"*Risk Averse Reinforcement Learning for Mixed Multi-agent Environments* ", AAMAS, Montreal, 2019.

- Raghuram Bharadwaj D., **D. Sai Koti Reddy**, Prabuchandran K.J and Shalabh Bhatnagar, "*Actor-Critic Algorithms for Constrained Multi-agent Reinforcement Learning* ", AAMAS, Montreal, 2019. (Joint first Authors)

- Raghuram Bharadwaj D., **D. Sai Koti Reddy**, Krishnasuri Narayanam and Shalabh Bhatnagar, "*A unified decision making framework for supply and demand management in microgrid networks* ", IEEE SmartGridComm 2018. (Joint first Authors)

- Chandramouli K., Prabuchandran K.J, **D. Sai Koti Reddy** and Shalabh Bhatnagar, "*Generalized Deterministic Perturbations For Stochastic Gradient Search* ", 57th IEEE Conference on Decision and Control (CDC).

- **D. Sai Koti Reddy**, Prashanth L.A., and Shalabh Bhatnagar, "*Improved Hessian estimation for adaptive random directions stochastic approximation* ", 55th IEEE Conference on Decision and Control (CDC), Las Vegas, NV, USA, 2016, pp. 3682-3687.

- **D. Sai Koti Reddy**, S.S Raghava, P. Viswanath and T. Hitendra sarma, *An Improvement to k-Nearest Neighbor Classifier*, ICDM-2010, 3rd International Conference on Data Management, IMT, Ghaziabad, India, 2010, Pages 314-324.

## SUBMITTED CONFERENCE PAPERS

- **D. Sai Koti Reddy** Amrita Saha, Srikanth G Tamilselvam, Pankaj Dayama and Priyanka Agrawal,"*Risk Averse Reinforcement Learning for Mixed Multi-agent Environments* ", IJCAI, Macao, China 2019.

- Raghuram Bharadwaj D., **D. Sai Koti Reddy**, Prabuchandran K.J and Shalabh Bhatnagar, "*Nested Actor-Critic algorithms for Constrained Cooperative Stochastic Games* ", IJCAI, Macao, China 2019. (Joint first Authors)

## PROFESSIONAL SERVICE

**Conference reviewer:** IEEE CDC 2017.

## TEACHING ASSISTANTSHIP

- Algorithms and Programming (Aug-Dec 2016)

## COURSE WORK

Credited (during Masters program in IISc, Bangalore)

Stochastic Models and Applications
Design and Analysis of Algorithms
Linear Algebra and Applications
Computational Methods in Optimization
Reinforcement Learning

Audited (during Masters program in IISc, Bangalore)

Machine Learning
Game Theory
Real Analysis
Measure Theory
Topics in Stochastic Approximation Algorithms

## ACADEMIC PROJECTS

- Algorithms for coordinate control of tightly coupled drones for carrying payloads (Feb 2017 - ).
- Distributed Multi-Agent Algorithms for Dynamic Control of Microgrids (Dec 2016 - ).
- Actor-Critic Algorithms with Function Approximation for Constrained Markov Decision Processes (Aug 2016 - ).
- Gradient and Hessian estimation procedures for adaptive random directions stochastic approximation in Simulation Stochastic Optimization (May 2015 - Dec 2016).
- A study on Gradient based Temporal Difference Learning Algorithms : A Review (Jan-Apr 2015).

## REFERENCES

**Prof. Shalabh Bhatnagar**,
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Indian Institute of Science Bangalore, India.
E-mail: shalabh@csa.iisc.ernet.in

**Dr. Viswanath Pulabaigari**,
Department of Computer Science and Engineering,
Indian Institute of Information Technology, Chittoor, India.
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