

# Satish Kumar Keshri

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## EDUCATION

### • **Master of Science**

July, 2018 - July, 2020

MSc in Big Data Analytics (Data Science)

Ramakrishna Mission Vivekananda Educational and Research Institute, Belur, India

**CGPA: 9.69/10.0, University Gold Medalist**

**Relevant Courses:** Machine Learning, Optimization Algorithms, Probability and Stochastic Processes, Multivariate Statistics, Linear Algebra

### • **Bachelor of Science**

August, 2015 - May, 2018

BSc (Hons.) in Mathematics and Computing

Institute of Mathematics and Applications, Bhubaneswar, India

**CGPA: 8.85/10.0, First Class Distinction, Top of the Class**

**Relevant Courses:** Real Analysis, Multivariable Calculus, Linear Algebra, Group and Field Theory, Statistics, Algorithms

## RESEARCH EXPERIENCE

### • **Research Assistant**

November, 2023 - Present

Centre for Artificial Intelligence (CAI),

Indraprastha Institute of Information Technology, Delhi (IIIT -Delhi)

Hosted by Dr. Ranjitha Prasad

- Working on Continual Machine Learning to turn any machine learning model into a “lifelong learner”. I am focused on addressing the problem of “catastrophic forgetting” for machine learning models with provable guarantees of convergence. My work primarily focuses on significantly mitigating this issue, ensuring that trained models maintain high performance levels across both new and old datasets. This approach allows for seamless model reuse by eliminating the need of extensive re-training even when the underlying data distribution changes. This work also tackles the issue of data heterogeneity with data privacy preservation through “Federated” learning frameworks.
- I am also working on convergence analysis of robust continual federated learning under Byzantine attacks.

## WORK EXPERIENCE

### • **Sr. Data Scientist**

April, 2022 - October, 2023

Dr. Reddy’s Laboratories, R&D Centre, Hyderabad

### • **Data Scientist**

June, 2020 - March, 2022

Dr. Reddy’s Laboratories, Hyderabad, India

### • **Data Science Intern**

Feb, 2020 - May, 2020

Dr. Reddy’s Laboratories, Hyderabad

## PUBLICATIONS

### **Papers Under Review**

1. On the Convergence of Continual Federated Learning, submitted at NeurIPS 2024  
Joint work with Nazreen Shah and Dr. Ranjitha Prasad

### **Working Papers**

1. Robust Continual Federated Learning Under Byzantine Attacks  
Joint work with Dr. Ranjitha Prasad
2. Bayesian Federated Continual Learning with Overlapped Task Boundaries  
Joint work with Dr. Ranjitha Prasad, Bhaswanth Gudimella, Shivkanth Reddy and Nazreen Shah

## HONORS AND AWARDS

- **ET Datacon Award, 2022** from The Economics Times, India for top analytics project at Dr. Reddy's Laboratories, India (Link)
- **Gold Medal**, awarded for University First Rank and Academic Excellence in my Master's, 2020
- **INSPIRE Scholar**, awarded by Department of Science and Technology (DST), Govt. of India, 2015

## REFERENCES

- ***Dr. Ranjitha Prasad***  
Assistant Professor, ECE  
Indraprastha Institute of Information Technology, Delhi  
Email: ranjitha@iiitd.ac.in  
Phone: +91 - 9148050726
- ***Reverend Swami Vidyapradananda***  
Assistant Professor and Deputy Registrar  
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