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

C.G.P.A 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

C.G.P.A 8.85/10.0**, **First Class Distinction, Top of the Class
Relevant Courses: Real Analysis, Multivariable Calculus, Linear Algebra, Group
and Field Theory, Differential Geometry, 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 project 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 retraining 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 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 Using Incrementally Aggregated Gradients, submitted at NeurIPS 2024, with Nazreen Shah, Ranjitha Prasad

Working Papers

1. Robust 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, Nazreen Shah

HONORS AND
AWARDS

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

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
  Ramakrishna Mission Vivekananda Educational and Research Institute, Kolkata
  Email: vidyapradananda@gm.rkmvu.ac.in
  Phone: +91 - 9836231667