



Ayon Borthakur

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Major Areas of Research/Up to 3 major sponsored projects

Embedded AI Systems, Deep Learning, Neuromorphic Computing, Computational Neuroscience

Major Research Facilities in the Group

Intel Loihi for neuromorphic computing

Technology/Product Developed/Up to 3 most significant Publications

Cleland, T. A., Imam, N., & Borthakur, A. (2022). Neuromorphic algorithm for rapid online learning and signal restoration. US Patent App. 17/603,171.

A.Borthakur, & Cleland, T. A. (2019). Signal Conditioning for Learning in the Wild. ACM. NICE '19: Proceedings of the 7th Annual Neuro-Inspired Computational Elements Workshop.

A.Borthakur, & Cleland, T. A. (2019). A Spike Time-Dependent Online Learning Algorithm Derived From Biological Olfaction. Frontiers in Neuromorphic Engineering, 13:656.



Ganesh Sambhaji Ghalme

Assistant Professor, Department of Artificial Intelligence

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Major Areas of Research:

Game Theory, Fair and responsible AI, Fair division

Major Research Facilities in the Group:

Shared computational servers at the AI center

Technology/Product Developed:

3 conference papers in core A/A* conferences, 2 papers in national level conferences, 1 journal paper





Mopuri Konda Reddy

Assistant Professor, DiL lab, Department of Artificial Intelligence

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Major Areas of Research/Up to 3 major sponsored projects

- Areas: Machine Learning (esp. Deep Learning), Data Science and Engineering, Artificial Intelligence, Computer Vision and Image Processing
- Projects:
- Application of AI/ML for early detection of stuck-pipe scenarios in drilling (for JOGMEC, Japan)
- SERB-SRG: Deep Learning for long-tailed computer vision

Major Research Facilities in the Group

- Workstations/servers with GPUs
- International exposure and collaborations with top tier universities
- Frontline research problems

Technology/Product Developed/Up to 3 most significant Publications

- Bo Zhao, Konda Reddy Mopuri, and Hakan Bilen. "Dataset Condensation with Gradient Matching." *ICLR* 1.2 (2021): 3.
- Konda Reddy Mopuri, Nayak, Gaurav Kumar, Vaisakh Shaj, Venkatesh Babu Radhakrishnan, and Anirban Chakraborty. "Zero-shot knowledge distillation in deep networks." *ICML*, pp. 4743-4751. PMLR, 2019.
- Konda Reddy Mopuri, et al. "Nag: Network for adversary generation." In *Proceedings of the IEEE CVPR*, pp. 742-751. 2018.

Rekha Raja



భారతీయ సాంకేతిక విజ్ఞాన సంస్థ హైదరాబాద్
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Assistant Professor, Robotics Lab, Artificial Intelligence

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Major Areas of Research

Robotics, Motion Planning,

AI/ML, Reinforcement Learning

Up to 3 major sponsored projects

1. **Institute seed grant:** Robot Decision Making and
2. **SERB POWER Grant:** Cognition-Enabled Autonomous Robot Motion Planning for Manipulation Task in the Dynamic Nature

Major Research Facilities in the Group:

AI Lab, Computer Vision Lab, Robotics Lab with Robots, cameras, high performance computing system

Technology/Product Developed/Up to 3 most significant Publications

1.1. R. Raja, A. K. Burusa, G. Kootstra and E. J. Van Henten, "Advanced Robotic System for Efficient Pick-and-Place of Deformable Poultry in Cluttered Bin: A Comprehensive Evaluation Approach," in IEEE Transactions on AgriFood Electronics, 2024, doi: 10.1109/TAFE.2024.3379190.

2.2. R. Raja*, "Software Architecture for Agricultural Robots: systems, requirements, challenges, case studies and future perspectives", IEEE Transactions on AgriFood Electronics, Feb 2024, DOI: 10.1109/TAFE.2024.3366335.

3.3. R. Raja*, DC Slaughter, S Fennimore, MC Siemens, "Real-time control of high-resolution micro-jet sprayer integrated with machine vision for precision weed control". Biosystems engineering. 2022. <https://doi.org/10.1016/j.biosystemseng.2023.02.006>

