Krishnam Soni

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EXPERIENCE

AI and Robotics - Research Internship May 2026 – Sep 2026
CPS Lab, Montanuniversität Leoben *Leoben, Austria*
- Developed parameter-efficient test-time adaptation methods for world models.
- Paper submitted to ICRA 2027 (see Publications section for pre-print).
- Two papers accepted at NeurIPS 2026 workshops (see Publications).
- Mentor: Dr. Vedant Dave.

Computer Vision - Research Internship May 2025 – Sep 2025
Nanyang Technological University (NTU Singapore) *Remote*
- Worked on automatic 3D MRI Cardiac Multi-structures Segmentation and Diagnosis using SAM2 inspired architectures.
- Mentor: Dr. Si Yong Yeo.

Computer Vision - Research Internship Jun 2024 – Sep 2024
Indian Institute of Technology, Kharagpur (IIT KGP) *India*
- Developed and implemented novel segmentation techniques for OCT scans using UNet architecture.
- Research paper published at IEEE INDICON (see Publications).
- Mentor: Dr. Karri Karthik.

PUBLICATIONS

Sandwich-Residuals: Parameter-Efficient Test-time Adaptation of World Models
Krishnam Soni, Aditya Sehgal, Vedant Dave, and Elmar Rueckert
arXiv, submitted to ICRA 2027

ALRA: Action-Latent Residual Adaptation for World Models
Krishnam Soni, Aditya Sehgal, Vedant Dave, and Elmar Rueckert
NeurIPS 2026 Workshops: PTA, TTCL, CL4FMAgents

PULSE: Surprise-Based Online Unsupervised Keyframe Detection
Aditya Sehgal, **Krishnam Soni**, Elmar Rueckert, and Vedant Dave
NeurIPS 2026 Workshops: RoboPAD, PTA

Segmenting Optical Coherence Tomography (OCT) Scans Using Multi-Scale Modified UNet Architecture
Krishnam Soni, Karri Karthik, and Manjunatha Mahadevappa
IEEE INDICON 2024

ACADEMIC SERVICE

- **Reviewer:** NeurIPS 2026 Workshops (WM PAI, TTCL)

EDUCATION

Semester Exchange - Industrial Data Science 2025 – 2026
Montanuniversität Leoben, Austria *Leoben, Austria*
- 7th Semester Exchange Student. Recipient of MULgraIN scholarship.
- GPA of 1.1 (Scale: 1.0 Excellent to 5.0 Unsatisfactory).
- Advanced Machine Learning, Machine Learning Algorithms, Programming in Python, Integrated CPS Project

Bachelor of Technology - Computer Science and Engineering (AI&ML) 2022 – 2026
Manipal University Jaipur *Jaipur, India*
- Machine Learning, NLP, Computer Vision, Reinforcement Learning, Foundations of Data Science, DSA, OOPS, DBMS, OS, Computer Networks, Theory of Computation

PROJECTS

- **Image Denoising with UNet and Hyperparameter Tuning** : Implemented a UNet for image denoising on the CBSD68 sigma35 dataset (augmented to 204 images).
- **ViziMed** (Github): A Flask-based medical management system for secure patient data handling and diagnosis assistance. Implemented user authentication, patient logs, and medical scan uploads using Python, Flask, and SQLAlchemy.