Rohit Kumar

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Timeline

KaggleX 3rd Cohort Mentee 08/2023 - 11/2023
Focused on reinforcement learning and open-source contributions under Mentor Shrinivasan Sankar *KaggleX*

Conference Paper Reviewer 06/2023 - 09/2023
8th international conference on Computer Vision and Image Processing (CVIP) 2023

Artificial Intelligence Engineer, Captury GmbH 07/2021 – Now
Captury GmbH, Acquired by DARI Motion, USA *Saarbrücken, Germany*

- *Human Body Tracking*: Developing the AI based solution for the human body tracking in multiview setup. 05/2024 – 09/2024

- *Instrument Tracking*: Developed the instrument tracking AI solution for us. Further integrating and leading to the generalised object tracking 05/2024 – 09/2024

- *Ball Tracking*: Leading the development of sports ball tracking using vision based AI algorithm. 04/2024 – Now

- *Instrument Tracking*: Lead the successful development of the guitar and violin tracking, vision based AI model. Developed the 3D rendering pipeline for data generation using blender. 12/2023 – Now

- *Low-resolution hand tracking*: Led the development and integration of a deep learning-based hand tracking feature for low-resolution images, taking the project from dataset generation to final neural network implementation. Achieved a deployable ready version integrated into Captury Software in March 2022. 07/2021 – 03/2022, 10/2022 – Now

- *Python Bindings*: Developed a Python library using Python-C APIs for Captury, enabling batch processing, server farm utilization, dataset generation, and efficient internal testing. The library is widely used both internally for in-house data generation (e.g., hand pose data) and by clients for processing large volumes of 3D-tracking data without UI or on server farms. 03/2022 – 06/2022

- *In-House Data Generation :* Showcased extensive expertise in 3D simulation software, including Unreal Engine, Unity3D, Blender, and our own CapturyLive to create compelling Captury software demos and facilitate synthetic and real-world data generation. These contributions significantly bolstered Captury's market presence, successfully attracting new clients while strengthening our in-house data generation capabilities.

Term Paper on Adaptation in cloud computing 01/2021 – 04/2021
Advisor: Prof. Naveen Sharma, Rochester Institute of Technology, New York, USA *Github*

Deep Learning Intern, Captury GmbH 10/2020 – 12/2020
Mentor: Dr. Nils Hasler (CTO) & Michal Ritcher (Sr. SW Dev.), Co-Founders *Saarbrücken, Germany*

Developed a deep learning model with randomization of foreground (Humans) and backgrounds(COCO)

Deep Learning Intern, Captury GmbH 05/2020 – 07/2020
Mentor: Dr. Nils Hasler, CTO, Cofounder *Saarbrücken, Germany*

Worked on shape key prediction prediction using 3D characters from Reallusion, randomization of shape keys in blender and prediction using SVD. This project eventually led to a bigger project in Captury to solve the task using Deep Learning.

Research Collaboration with National Institute of Informatics(NII), Japan 04/2020 – 03/2021
Advisors: Prof. Isao Echizen NII,Japan; Dr. Harkeerat Kaur, IIT Jammu *NII Japan - IIT Jammu*

Publication: Reinforcement Learning based Smart Data Agent for Location Privacy
AINA'21 (Advanced Information Networking and Applications) Page(s): 657-671
Harkeerat Kaur; Rohit Kumar; Isao Echizen

Publication: Smart Data Agent for Preserving Location Privacy
IEEE-SSCI'20 (Symposium Series on Computational Intelligence) Page(s):2567 - 2575
Harkeerat Kaur; Isao Echizen; Rohit Kumar

Machine Learning Research Intern, IIT Bombay 05/2019 – 07/2019
Advisor: Prof. Virendra Singh, IIT Bombay *Bombay, India*

Literature review of Object detection and deep learning methods for it.

BTech in Computer Science And Engineering 07/2017 – 05/2021
Indian Institute of Technology(IIT) Jammu, India *CGPA: 7.4/10*

While studying at IIT Jammu, I honed my skills in AI through hands-on research and development projects and enriched my knowledge through online courses from renowned institutions like Stanford Online, MIT OCW, and Coursera. Additionally, as Cultural Secretary, I effectively led a 30-member team to execute a successful 10-day foundation program.

Prepared for JEE-ADVANCED Exam 04/2016 – 05/2017
Successfully prepared for and passed JEE-ADVANCED, the entrance exam to enter IITs in India, with a rank of 6556.

Star Public School, Rajasthan, India 04/2015 – 03/2016
High school examination, CBSE Board, India *85.67 / 100*

Others

Coursera Certificates : Computational Neuroscience by University of Washington; Synapse, Neuron and Brain from Hebrew University; AI for Medicine Specialisation from DeepLearning.AI; Deep Learning Specialisation from DeepLearning.AI; Reinforcement Learning Specialisation from University of Alberta

Skills : Pytorch, Python, C++, C, Tensorflow, Computer vision, CMake, Blender, Unreal Engine, Unity, Reinforcement Learning, Natural Language Processing, AI, Albumentations, HuggingFace tools, Gradio, fiftyone