Shishir Sunar

Working Student – AI Developer | MSc. Informatics TUM

Contact

shishir.sunar9@gmail.com

015733734290

Einsteinstraße 10, Garching bei München, 85748, Germany

Skills

Programming Languages, AI/Machine Learning, Data & Tools, Web Technologies, Other

Projects

Extending VGGT for Novel View Synthesis

Deep Entropy - Multi-Definition Disorder Predictor

Machine-Learning-MITx-6.86x

Xbot - An autonomous flying robot

Recognition of Hand Written Mathematical Expression using Scale Augmentation and Drop Attention

COVID-19 user tracker

Work Experience

Working Student Data Scientist — CHECK24 Vergleichsportal GmbH (2024-

Focused on enhancing digital identity verification through advanced AI and computer vision techniques.

- Developed object-level coherence tracking to enhance liveness detection in video verification, utilizing computer vision and AI techniques.
- Evaluated State-of-the-Art (SOTA) AI models for screen recapture detection to identify fraudulent video submissions, focusing on algorithm optimization and performance.
- Conducted research in one-shot learning techniques for hologram detection on ID cards, exploring novel AI applications for image analysis.
- Automated data collection processes by building a web scraper for EU ID card template extraction, producing essential training data for AI models.

Studentischer Wissenschaftler - AI in Climate Science — Alfred Wegener In

Applied AI and Machine Learning to climate science data for prediction and analysis.

- Implemented Convolutional Neural Network (CNN) models in Python for climate science predictions, leveraging existing literature and optimizing performance.
- Developed three major APIs in Python for unstructured mesh grid interpolation, CNN model prediction, and a backward algorithm for generating statistics and tracking model outputs, directly contributing to test and training data production and evaluation.
- Completed an 8-week full-time mandatory internship focused on practical AI application.

Junior Software Engineer - NLP — P&M Agentur Software + Consulting (202

Contributed to developing and integrating NLP-driven software solutions.

- Implemented Generative Augmented Retrieval (GAR) with GPT 4.0, integrating advanced NLP models into software solutions.
- Integrated documents through a Document Management System (DMS) to prepare data for AI processing.
- Developed backend services with Domain Driven Design (DDD) in ABP framework using C#, and frontend in Angular.

Working Student Data Science Research — edyoucated (2021-10-31-2022-0

Conducted data analysis and research to optimize user engagement and product difficulty.

- Built statistical models to predict difficulty of a Course using customer consumption rates and dropouts.
- Researched on several KPIs to maximize user retention rate.

Teaching Assistant — Jacobs University Bremen (2022-09-30-2023-05-31)

Assisted faculty in delivering core Computer Science courses.

- Provided academic support for two courses: Automata Computability and Complexity, and Operating Systems.

Education

Master of Science - MS in Informatics — Technical University of Munich (2024-04-30-2026-10-31)

Bachelor of Science - BS in Computer Science — Jacobs University Bremen (2020-08-31-2023-08-31)

High School Diploma in Science — St. Xavier's College, Maitighar (2016-12-31-2018-12-31)

Projects

Extending VGGT for Novel View Synthesis —
Practical project under Prof. Dr. Daniel Cremers, focusing on finetuning

VGGT models for novel view synthesis. This project directly involves optimizing AI algorithms to produce high-end visualization content and demonstrates expertise in generative AI for rendering and image processing.

Deep Entropy - Multi-Definition Disorder Predictor —
Developed a Multi-Definition Disorder Predictor, training a shared encoder for multiple protein disorder definitions (NMR, Softdis, Disprot). This project highlights experience in designing and training AI models and handling complex data for model input.

Machine-Learning-MITx-6.86x —
Comprehensive machine learning projects including MNIST Digit Recognition, Recommender Systems and Collaborative filtering, Reinforcement Learning, and Sentiment Analysis, demonstrating foundational ML expertise.

Xbot - An autonomous flying robot —
Coded the flight control system, PID control, sensor modules, escape algorithm, and data transmission in Arduino (C/C++), showcasing C/C++ programming skills and embedded systems development. Participated in Google Science Fair 2016.

Recognition of Hand Written Mathematical Expression using Scale Augmentation a
Published research project focusing on advanced image recognition techniques for mathematical expressions, demonstrating expertise in computer vision and deep learning.

COVID-19 user tracker —
A simple QR code based user tracking web app for gaining insights on infected users.

Path_planning on BlueROV —
Implemented A-star Path planning algorithm for BlueROV.

Stock Analyser —
Implemented and researched over Brownian motion in real world stock data. Used Black Scholes equation to define the proper value for Call and put option in trading.