Shishir Sunar

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WORK EXPERIENCE

CHECK24 Vergleichsportal GmbH **Munich, Bavaria, Germany**
Working Student Data Scientist *2024-08-31 —*

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.

Alfred Wegener Institute Helmholtz centre for polar and marine research **Bremerhaven, Bremen, Germany**
Studentischer Wissenschaftler - AI in Climate Science *2022-01-31 — 2023-05-31*

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.

P&M Agentur Software + Consulting **Hamburg, Germany**
Junior Software Engineer - NLP *2023-12-31 — 2024-07-31*

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.

edyoucated **Münster, North Rhine-Westphalia, Germany**
Working Student Data Science Research *2021-10-31 — 2022-03-31*

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.

Jacobs University Bremen **Germany**
Teaching Assistant *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 **2024-04-30 — 2026-10-31**
Technical University of Munich

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

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

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 and Drop Attention

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.