

Partha Pratim Nandi



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PROFILE

Masters in Data Science with experience in Python, data pipelines, and zero-shot vision models. Proficient on cloud-based prototypes and ETL pipelines, with a growing focus on GenAI/LLMs and practical AI applications.

LANGUAGES

English
C1

German
B1

Bengali
Native

EDUCATION

Master of Science in Data Science, Friedrich-Alexander-Universität Erlangen-Nürnberg

October 2021 – January 2026 | Erlangen, Germany

Thesis: Exploring zero-shot computer vision models for the annotation and detection in the context of weed detection (collaborative thesis with the University of Hohenheim - submitted)

- Evaluated deep learning **zero-shot vision models** (CLIP, Grounding DINO, and Grounded-SAM 2) for classification, object detection, and segmentation in agricultural imagery.
- Performed statistical evaluation and comparative analysis to analyze model's performance and deployment feasibility.
- Ran large scale experiments on high performance computing (**HPC**) cluster, have experience with **SLURM** batch scripts to manage GPU resources, job arrays, and experiment scheduling.

Courses: Deep Learning, Machine Learning in Finance, Machine Learning in Signal Processing, Pattern Recognition, Machine Learning in Time Series

Bachelor of Engineering in Computer Engineering, Gujarat Technological University

August 2016 – August 2020 | Ahmedabad, India

Grade: 2.1

Recipient of a fully funded Government Scholarship (ICCR)

Courses: Software Engineering, Artificial Intelligence, Big Data Analysis, Object oriented Programming In JAVA, Web Technologies, Data Structure, Advance Design of Algorithms.

Final Project: Real-Time Bus Fare Comparison Android app

WORK EXPERIENCE

Fraunhofer IIS, Research Assistant

May 2024 – present | Erlangen, Germany

- Developed UI for advanced interactivity of MPEG-H Next Generation Audio
- Developed a responsive web interface for a cloud-based media encoding prototype using **React** and **TypeScript**.
- Collaborated with cross-functional teams to define requirement and integrate the frontend with backend encoding services using **GitLab**.

TECHNICAL SKILLS

Programming

Python, SQL, BASH

Deep Learning & Frameworks

PyTorch, TorchVision, Zero-Shot Learning, Foundation Models (CLIP, SAM 2, Grounding DINO), Transfer Learning

Web Dev

React, Jest, Node.js, HTML 5, CSS 3, TypeScript, JavaScript, Wordpress

Version Control

Git, GitLab

Others

Problem solving, Communication, PowerBI

Computer Vision

OpenCV, Object Detection, Instance Segmentation, Image Processing (Pillow)

INTERESTS

Hobbys

Cricket, Piano, Fishing, Football, Video editing, Traveling

Fraunhofer IIS, Research Assistant

September 2022 – January 2023 | Erlangen, Germany

- Developed automated data pipelines and quality assurance scripts using **Python** and **Shell**, which contributes in training and evaluation of AI-based audio noise reduction models.

Purple Wave, Web Developer (Intern)

March 2020 – August 2020 | Dhaka, Bangladesh

- Built SEO-optimized e-commerce sites for local businesses.
- Tech: **Wordpress, JavaScript**

PROJECTS

Analyzing the Impact of Weather on Traffic Collision Dynamics in Los Angeles [↗](#), Data Engineering Project (FAU)

October 2024 – February 2025

- Built and deployed an automated **ETL pipeline** to integrate traffic and weather data.
- Analyzed correlations to identify road safety risks and generated actionable insights for public safety .
- Technical Skills: Python, Git

Image Classification using Resnet-50, Institute: FAU

- Implemented a ResNet-50 neural network for image classification and automated tagging