Ankit Chavhan Data Scientist

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SKILLS

- **Programming languages and libraries:** Python, Pytorch, NumPy, Pandas, Matplotlib, Sklearn, TensorFlow
- **Data science:** Machine learning, Deep learning, Natural language processing (NLP), Statistical modelling, Large Language models (LLM), Exploratory data analysis, Product Analytics, SQL, Hypothesis testing, mlFlow.
- **ML deployment:** Streamlit, Flask, Fast API, Docker
- **Azure technologies:** Azure Service bus, Azure file share, Azure container registry

EXPERIENCE

Research Engineer   Feb 2020 - Present

Carl Zeiss   Bangalore, India

Project: Surgery optimizer application

- Supervised a cross-functional team of three individuals, coordinating closely with project owners and the backend team.
- Orchestrated the development and deployment of two AI models for **phase segmentation** and **classification**, each encapsulated in **Docker** images housing **ONNX models**, and equipped with **APIs** for seamless inferences, optimizing operational efficiency by **reducing processing time by 40%.**
- Developed and implemented an automated pipeline on **Azure file share**, streamlining **phase segmentation annotations** and dataset formulation processes, while enhancing model experiment monitoring and deployment through **MLflow**.
- The application was effectively showcased at **ASCRS and ESCRS events**, which led to the validation study incorporating **10 new sites**. Consequently, the application was launched in the US region.

Project: AI-DKD

- Trained an **AI model** to predict Diabetic Kidney Stage (DKD) of patients using Fundus images and invasive parameters.
- Procured a **patent** for a pioneering approach that utilizes Machine Learning and Deep Learning to identify Diabetic Kidney Disease (DKD) with the help of ophthalmic data and other invasive parameters.
- Received the prestigious **Zeiss patent award 2023** and made significant contributions by publishing 1-1 research papers in the **ARVO** Journal and **IJO**.
- Executed **statistical and exploratory data analysis** on structured data, pinpointing crucial features after conferring with clinicians. Constructed a **Random Forest model** that yielded an **F1 score of 89%.**
- Secured a finalist position in the New Business Challenge (NBC-2023) and demonstrated a pitch and **Streamlit application** to the ZIESS CEO, advocating for the solution's market launch as a product.

IT Developer   Aug 2016 - Jan 2020

Medtronic   Bangalore, India

- Employed **Python** to construct a data pipeline capable of handling 300 GB of ServiceNow data.
- Managed and transformed the data to extract insightful conclusions through **statistical analysis**, **exploratory data analysis**, and **hypothesis testing techniques**.

ACHIEVEMENTS

- **Patented** "Utilizing artificial intelligence to identify early signs of kidney dysfunction from retinal images and invasive parameters" (pending) Indian application number 2022P00778IN01.
- Received the **ZEISS patent award 2023**.
- **Publication**: "Artificial intelligence-based referral and progression of diabetic kidney disease using retinal fundus images" url: https://iovs.arvojournals.org/article.aspx?articleid=2790307
- **Publication**: "Narrative review of artificial intelligence in diabetic macular edema: Diagnosis and predicting treatment response using optical coherence tomography". url: https://journals.lww.com/ijo/Fulltext/2021/11000/Narrative_review_of_artificial_intelligence_in.15.aspx

EDUCATION

Scaler   2023

Specialized in Data Science & Machine Learning

CDAC, Acts   2016

PG-DAC | 68.9%

ITM University Gwalior   2015

BE in CSE | 7.2 CGPA