SHUBHAM PANDEY

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PROFILE

As an inquisitive and results-driven AI professional, I bring over **7 years of** comprehensive expertise in the AI field, covering a diverse range of AI domains and working on projects both in India and overseas. With a **MS in Artificial Intelligence from Trinity College Dublin, Ireland**, I have consistently demonstrated the ability to lead and collaborate effectively. My expertise extends across **Deep Learning, Computer Vision, NLP, LLM, Machine Learning**, AR/VR, and Software Development, with a strong track record of **rapidly translating ideas into initial Proof of Concepts (POCs)** and delivering fully functional production-level AI applications.

SKILLS

Soft Skills: Project Management, Leadership, Problem Solving, Team Building, Presentation and Communication.
Languages: Python, Java, C# (Unity3D), JS(React Js).
AI/ML: Deep learning,Computer Vision, NLP, LLM, Recommendation System, Machine Learning, Feature Engineering.
Computer Vision: Object Detection, Classification, Segmentation, Zero Shot, Pose Detection, Pose Estimation, AR etc.
NLP: Text Summarisation, Question Answer System, Chatbot, Sentiment Analysis, Prompt Engg and LLM Fine Tuning.
Framework: OpenCV, Langchain, Tensorflow (python, Js, TFLite), Scikit-Learn, OpenCV, NumPy, Keras, Pandas etc.

PROFESSIONAL EXPERIENCE

HEAD OF AI, AGILIS AS, PUNE, INDIA   **2021 – PRESENT**
Led the AI department of Naardic AS **(Norway's largest online interactive gym company)**, heading the tech development that resulted in a tech solution far more advanced than competitors**.** Culminating in the creation of a **video conferencing system with computer vision** at its core, replacing traditional solutions like Zoom, resulting in an increase in customer acquisition and retention due to enhanced features and experiences. Some notable work includes:

- Leading the development of a **recommendation system** for fitness classes using **collaborative filtering** and **context filtering** for the coming week's schedule.
- Innovating one of the industry's first **avatar systems to mimic customers' full-body movements in real-time within the video conferencing system**, offering personalization and customization options.
- Devising and executing the AI strategy to **gamify fitness and workouts,** pioneering the repetition counter system**,** using **pose detection, estimation, and customer trainer DNN model trained on a large dataset**. This leads to real-time competition and engagement among customers through leaderboards and AI generated feedback.
- **Sentiment analysis of customer reviews** for class and trainer, this helped in understanding customer feedback.
- Developing an automated video processing unit to process large video files, extremely fast to create customised video for production video library using **Custom OCR model, OpenCV, FFmpeg, multi-threading, Mux, Daily**.
- Designing and creating an end-to-end **3D virtual companion (AvatarGPT)** that offers real-time conversational interactions with an Avatar. This intricate project incorporated Python, Unity3D, RVC, Langchain, GPT, 3D avatar animation, MongoDB, prompt engineering etc.

As the Head of Artificial Intelligence at Agilis AS, a prominent service-based company in **Norway**, I am **leading and managing the Research and Development (R&D) centre for advanced AI development in India**. In this role, I oversee the development of cutting-edge AI solutions, my main responsibilities include:

- Orchestrated full-cycle AI/ML development, **custom-tailored to meet client specifications**, encompassing the entire journey from conceptualization to production.
- Oversee project planning, execution and delivery, ensuring that projects are completed on time with high quality.
- **Designed and implemented robust AI software architectures** for complex projects, ensuring scalability, maintainability, and high performance.

- Leading the end to end AI/ML Development including **data set creation**, **training, evaluating, and deployment.**
- Performed **performance analysis** of different models based on speed, accuracy and other performance metrics.
- Taking appropriate **optimization decisions** to make the model more robust and suitable for production.
- Proficient in deploying AI solutions across different platforms including mobile apps and web applications.
- Development of **CI/CD pipeline using Jenkins and Bitbucket** resulted in fast development, QA and deployment.
- Continuously **evaluated emerging AI trends and integrated them into projects**, driving innovation and staying ahead of the technology curve.
- **Utilised agile and scrum methodologies** to keep projects on track and ensure continuous improvement.
- **Performing client interactions**, quality check, code reviews, requirement analysis and feasibility analysis.
- **Presenting AI initiatives and results** to executive leadership and board members.
- Mentored and coached team members, fostering a culture of continuous learning and professional development.

SENIOR SOFTWARE ENGINEER - ML, CREATEBYTES, GURUGRAM, INDIA   **2021 – 2021**

As a Team Lead and Senior Software Engineer within the Research and Development Team, I played a pivotal role in overseeing concurrent product development efforts. My contributions encompassed:
- Crafting a **text summarization system using BART** tailored for high-volume and intricate Supreme Court verdicts.
- Pioneering the development of a **captcha prediction system** capable of automatically deciphering captchas.
- Architecting an advanced **anatomical part prediction model** specifically tailored for femur bone.
- Work an **anthropometric parameter prediction system** using the point cloud of a human body.

VISION ENGINEER, SUREWASH, DUBLIN, IRELAND   **2019 – 2021**

Leading the **training, development, and deployment** of Vision Systems for **kiosk systems and mobile applications.**
- **Collaborating on a vision-based research project** with professors from Trinity College and Enterprise Ireland.
- Utilising **Azure Kinect Camera** for **body tracking and pose estimation** to create an MVP for a new product.
- Successfully completing multiple projects related to **object detection, classification, and segmentation** using DL approach **(MobileNet SSD, MobileNet, Faster RCNN, YOLO, TensorFlow Lite etc.)** and classical vision and machine learning techniques **(feature extraction, SVM etc.)**
- Proficiency in **data collection, annotation, preprocessing, and augmentation** of large image datasets.
- Experience in working with **Intel RealSense Depth Cameras, depth values and classical computer vision.**

SYSTEM ENGINEER, TATA CONSULTANCY SERVICES, BENGALURU, INDIA   **2015 - 2018**
- As a **Team Lead** performed client interaction, quality check, code reviews, requirement and feasibility analysis.
- As a **Senior Java developer** having experience in the development and automation of large-scale applications.

EDUCATION

M.S. IN COMPUTER SCIENCE – INTELLIGENT SYSTEMS   **2018 - 2019**
TRINITY COLLEGE DUBLIN, DUBLIN IRELAND
Grade: First Class 69%

BACHELOR OF ENGINEERING - COMPUTER SCIENCE AND ENGINEERING   **2011 - 2015**
SIR M VISVESVARAYA INSTITUTE OF TECHNOLOGY, BENGALURU, INDIA
Grade: First Class 67.02%

CERTIFICATIONS & ACHIEVEMENTS
- Based on my performance, I was **showcased on Agilis AS, Createbytes, Surewash company's website**.
- Received **"Star Team", "Best Team" and "On the Spot"** award for distinguished performance.
- Completed **Deep Learning Specialization, Generative AI Specialization** etc. from **Deepleaning.ai, Google** etc
- Achieved Grade B in **Data Analytics** and **Data Mining** Course under CCE program from **India Institute of Science.**