

# 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

**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.

**Soft Skills:** Project Management, Leadership, Problem Solving, Team Building, Presentation and Communication.

## 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 an **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 include:

- Leading the development of a **recommendation system** for fitness classes using **collaborative filtering** and **context filtering** for the coming week 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 large dataset**. This leads 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 customized 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, fine-tuning of LLM, 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) center for advanced AI development in India**. In this role, I oversee the development of cutting-edge AI solutions, my main responsibilities includes:

- 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.
- **Utilized agile and scrum methodologies** to keep projects on track and ensure continuous improvement.
- **Performing client interaction**, 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 on 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.
- Utilizing **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 **Deeplearning.ai, Google** etc
- Achieved Grade B in **Data Analytics and Data Mining** Course under CCE program from **India Institute of Science**.