europass Curriculum vitae

PERSONAL INFORMATION Sandeep Reddy Sabbella

WORK EXPERIENCE

Nov 2021 – Present

Ph.D Candidate

Sapienza Università di Roma - Rome, Italy

- Researching on **Human-Robot Interaction in Precision Agriculture.**
- Implementing real-time detection algorithms that best suit for effective HRI interaction using Gestures, Speech and other modalities.
- Developing innovative multi-modal HRI algorithms for human-robot communication. Researching on incorporating LLMs and LVMs into HRI.
- Creating and utilizing VR simulations for training and evaluating HRI systems.

Oct 2020 – Nov 2021

Research Assistant

Sapienza Università di Roma - Rome, Italy

- Integrated Semantic exploration techniques into mobile Robots using a new framework designed on semantic active vision exploration and object detection.
- Research and Implementation of real-time detection algorithms that best suit 3D and 2D object recognition tasks. Created novel evaluation metrics to facilitate semantic exploration.

Nov 2020 – Jul 2021

Machine Learning Engineer

Clarifai - Tallinn, Estonia

- Built models for the clientele using ML, DL, and Computer Vision and deployed trained models to cloud architecture using a proprietary platform.
- Researched and built new features into the NLP and Computer Vision platform products.
- Created Python notebooks and Bash Scripts for various purposes.
- Designed testcases around the portal to ensure proper deployment of models.

Jul 2019 – Oct 2020

Artificial Intelligence Engineer

Smart-I - Rome, Italy

- Researched and built applications on Machine Learning, Deep Learning, and Computer Vision using state-of-the-art artificial intelligence approaches.
- Deployed trained models on to Edge devices, cloud architecture and embedded sensors.
- **Thesis:** Fire and Smoke detection for smart cities using Deep Neural Networks and Edge Computing on Embedded Sensors.

Apr 2016 – Sep 2017

Automation Test Lead

Cognizant Technology Solutions - Hyderabad, India

- Led a team of 4 engineers in the QA/QC department and performed a complex business goals and objectives analysis.
- Built a successful agile workflow and facilitated all the test automation projects in a deadline-driven environment.

Jan 2015 – Mar 2016

Quality Assurance Engineer

Cognizant Technology Solutions - Chennai, India

- Analyzed, designed, and developed test-automation methodologies.
- Provided ongoing maintenance, support, and enhancements in the existing systems and platforms.

Jun 2014 – Dec 2014

Associate Software Engineer

Tech Mahindra limited - Hyderabad, India

- Worked alongside a professional team of engineers and elevated technology services to clients in the banking domain.

EDUCATION & TRAINING

2022–2025 **Ph.D in Engineering in Computer Sciences**

University: **Sapienza Università di Roma**, Rome, Italy

2017–2020 **Master's in Artificial Intelligence and Robotics**

University: **Sapienza Università di Roma**, Rome, Italy **Score: 100/110**

Erasmus (2018–2019): **Technische Universität (TU) Dortmund**, Dortmund, Germany

2010–2014 **B.Tech in Mechanical Engineering**

UNiversity: **Jawaharlal Nehru Technological University**, Kakinada, India **Score: 83/100**

TECHNICAL & PERSONAL SKILLS

Mother tongue: Telugu

Other languages

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C2	C2	C2	C2	C2
	IELTS				
Italian	A2	A2	A1	A2	A2

Levels: A1 and A2: Basic user – B1 and B2: Independent user – C1 and C2: Proficient user
Common European Framework of Reference for Languages

AI skills

- Hands-on experience in Machine Learning and Deep Learning applications in python and C++ implemented on cloud and Edge Devices.
- **Computer Vision** - Data Modelling, Evaluations, Correlations, Clustering, Classification, Regression, Detection and Segmentation.
- **Machine Learning**— Supervised, Unsupervised, and Reinforcement Learning, and Natural Language Processing.
- **Deep Learning** — Convolutional Neural Networks, Recurrent Neural Networks, Transfer Learning, Generative Adversarial Networks.

Research Interests

- Multimodal Human-Robot Interaction (HRI) using natural language processing and computer vision.
- Virtual Reality (VR) simulations for training and evaluation of HRI systems.
- Applications of AI and robotics include autonomous systems, precision agriculture, and environmental monitoring.
- Edge computing strategies for optimizing AI performance on resource-constrained devices.
- Deep learning techniques for anomaly detection and image understanding.
- Computer vision algorithms for object detection, classification, and segmentation.

Programming skills

- Python (TensorFlow, Keras, Numpy, SciKit-Learn, Pandas, Matplotlib, PIL, OpenCV, NLTK); C++, SQL, Docker, Git, grpc, AWS, GCP, Edge Computing, Rest and Postman API's
- Experienced in CI/CD integration and End-to-End deployment solutions.