Shreedhar Savant **Todkar** R&D Technical Project Leader | PhD in AI & signal processing

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Currently, in position as R&D Technical Project Leader and AI Engineer with a strong background in AI for Autonomous Driving projects at Capgemini Engineering. Academic journey includes a PhD in Signal Processing, Geophysics, and Machine Learning, reflecting my expertise in data-driven technologies. With over 6 years of expertise in MATLAB and Python, along with 3 years in C++. Passionate in using AI and data engineering to drive innovation. Specialized in developing AI solutions and have a keen interest in Autonomous Vehicles and/or Health and Medicine.

SKILLS

Expertise domains Deep Learning, Signal Processing, Statistical Analysis and Data science, Geophysics, Supply

Chain Management, Project Management

Development platforms Python, Matlab, Perl, C++

Development/AI platforms Python (Keras, Tensorflow, Numpy, Scikit, Pandas) and Matlab (Computer vision & image pro-

cessing, ML & classifier learning, OpenCV)

Project Management Resource Planning and Scheduling, Google Analytics, MS SharePoint, Jira and Trello

Version Control/Code Collaboration Gitlab, Github, Bitbucket

OS platforms Windows, Linux and MacOS Safety standards ISO 26262, ISO/PAS 21448 SOTIF



PROFESSIONAL EXPERIENCE

August 2022

Technical Project Leader | Data and Al Engineer, Capgemini - Altran Prototype Automobiles, Meudon, France

present

Technical Responsibilities:

- > Development of Deep Learning and YOLO models for autonomous driving applications : perception, distance estimation, object detection and tracking.
- > Development of explainable AI models to "explain" and improve autonomous driving experience
- > Development of object detection & tracking methods (e.g, cars, pedestrians, cyclists etc.)
- > RADAR and monocular camera data processing for environmental perception.
- > Development of diagnostic methods to detect sensor faults and failures in the Ego vehicle
- > Development of a reference model for perfect autonomous driving behavior using NLP on the French Traffic Rulebook & SOTIF safety regulations
- > Characterization of the smart testing acceptance criteria through a set of rule-based models

Managerial Responsibilities:

- > Technical-economic benchmark, Return On Investment (ROI)/cost estimation, Business plan writing, Team staffing, Resource identification
- > Project milestones planning and identification of its future technical directions

Natural Language Processing Deep learning YOLO tracking RADAR Semantic analysis Autonomous Driving Defect detection Diagnostics ISO - SOTIF Python Gitlab

March 2023 April 2023

Interim visiting Associate Professor, ECOLE DE MANAGEMENT LÉONARD DE VINCI, Paris, France Teaching Responsibilities :

- > Enhanced student engagement through interactive lessons on AI in supply chain
- > Developed and delivered engaging lesson plans to a diverse classroom of 15+ students, resulting in upto 9% increase in standardized test scores on the following topics:
 - > Implementation of AI algorithms in Supply chain
 - > Optimization of supply channels and resource allocations using AI
 - > Development of platforms using Python

Artificial intelligence | Supply chain | optimization | resource allocation | Python

September 2021 June 2022

Data scientist and AI consultant for geophysical applications, FREELANCER, Nantes, France

- > Freelancing Data scientist and AI consultant for NDT applications
- > Data processing consultant for ground radar and non-invasive evaluation
- > Development of deep learning GUI for pavement monitoring end-users
- > Infrastructure data processing for predictive damage detection and control

Signal processing Machine learning NDT&E SHM GPR MATLAB Python

July 2021

November 2019

Postdoctoral Research Engineer, UNIVERSITÉ GUSTAVE EIFFEL, Nantes, France

Title: Advanced GPR data processina techniques for thin debondina detection in payement structures

- > Joint collaborative project with CNAM and Cerema funded by the "Agence Nationale de la Recherche (ANR)", France
- > Responsible for two work packages related to: Development of advanced data processing and AI techniques for subsurface damage detection and monitoring
- > Developed an end-to-end HMI (currently deployed on the internal server of Université Gustave Eiffel) Signal processing Machine learning NDT&E SHM debondings FP MATLAB Python Simulation & modeling

October 2019 November 2016

Doctoral candidate, CEREMA - IFSTTAR, Nantes, France

- > Non-destructive evaluation and monitoring of infrastructures for early detection of structural damage
- > Development and optimization of artificial intelligence methods (based on supervised machine lear-
- > Generation of mathematical and numerical synthetic 2D and 3D models for validation of AI detection models

Signal processing | Machine learning | NDT&E | GPR | debondings | MATLAB | Simulation & modeling

August 2014 February 2013

Software Engineer & Analyst, Accenture Services Pvt. Ltd., India

Developer - Project Aristos IVR for AT&T

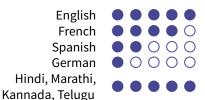
- > Development of an Interactive Voice Response (IVR) system
- > Data collected and used: Voice calls from 3 South-eastern US states
- > Design and development of Gandalf: a server monitoring system

Interactive voice response system | Periphonics | Server monitoring | Perl | Python

EDUCATIONAL BACKGROUND

- Ph.D. in AI, geophysics and signal processing from Université de Nantes, Nantes FRANCE | Thesis title : Monitoring subsurface conditions of pavement structures using Ultra-wideband radar technology
- Masters in Electronics, Specialized in Wireless Communications from École Supérieure d'Ingénieurs en 2016 Électrotechnique et Électronique - ESIEE, Paris, FRANCE
- 2012 Bachelors' degree in Engineering, Specialization Telecommunications, from Visvesvaraya Technological University, Belgaum, INDIA

CANGUAGES



STRENGTHS

- > Passionate and Motivated
- > Autonomy
- > Resource planning, Quality Assurance
- > Mentoring and Coaching

66 REFERENCES

BERTAU, Thierry

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BALTAZART, Vincent

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