Nimish **Shah**

Contact

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Public Key

www.linkedin.com/in/shahns

https://shahns.github.io/

Languages

English ★★★★★
Hindi ★★★★★
Marathi ★★★★★
German ★★☆☆☆

Skills

Programming
C, C++, Python, R, Java, Assembly, MySQL, LaTeX, Shell Scripting, Lua, Familiar: PHP, JavaScript

Applications, Packages, Frameworks
MATLAB, ROS, OpenCV, PCL, NumPy, PyTorch, TensorFlow, scikit-learn, Matplotlib, git, PRTools, caret, SCADA, Docker, Microsoft Office Suite

Webservices
SOAP, RESTful, GraphQL, WS-BPEL, BPMN

OS and Miscellaneous
Linux, Windows, PLC, Android Development

Education

2018–2020 **Master** in Electrical Engineering — University of Twente, the Netherlands
Specialisation: Robotics and Mechatronics
Thesis: 3D Stereovision for Quantification of Skin Diseases
Supervisor: dr. ir. Ferdi van der Heijden, (f.vanderheijden@utwente.nl)
Keywords: 3D Computer Vision, Stereo Vision, Extended Kalman Filter, Simultaneous Localization and Mapping (SLAM)

2018–2019 **Master Honours** in Change Leaders — University of Twente, the Netherlands
Group Paper: Leading Change in Higher Education: Challenges, Styles & Characteristics
Keywords: Future of Education, Blended Learning, e-Learning, Change Management, Organizational Change

2013–2017 **Bachelor** in Mechatronics Engineering — Manipal University Jaipur, India
Thesis: Asset Management using RFID
Award: Gold Medal for highest CGPA

Experience

Work Related Experience

2019–2020 **Student Assistant** — University of Twente, Enschede, The Netherlands
Setting up and assessing faculty-wide content distribution policy through learning management system, providing assistance in case of policy violation

Jul 19–Dec 19 **Research Assistant** — Fraunhofer IPA, Stuttgart, Germany
Developing Adaptive Offline Robot Programming Based on 3D Sensing; Implementing deep learning algorithms to plan end to end optimal paths for mobile and articulated robots using Python and TensorFlow; Setting up RESTful webservice for creating a library of CAD models for a labelled dataset generation
Contact/Reference: Christian Landgraf, (christian.landgraf@ipa.fraunhofer.de)

Jan 17–May 17 **Intern** — Ajinkya Electronic Systems, Mumbai, India
Setting up an inventory management system using RFID; Development of APIs for real-time inventory management using RFID; Integration of APIs with ERP

Voluntary Experience

2015–2016 **Senior Coordinator** — Autonomous Initiative, Manipal University Jaipur
Outlining year-round activities; Organisation of guest lectures and workshops; development of website for the club — Active Members: 300

2015–2017 **Member, Organizing Committee** — TechIdeate, Manipal University Jaipur

Projects

https://shahns.github.io/#projects

Implementing Extended Kalman Filter Simultaneous Localization and Mapping (EKF-SLAM)

MATLAB

Estimation and retrodiction of the robot trajectory using EKF-SLAM
Keywords: Extended Kalman Filter, Rauch–Tung–Striebel (RTS) smoothing, SLAM, odometry

Using (Deep) Convolutional Neural Networks to classify CT slices

MATLAB, Deep Learning Toolbox

Designing and training a convolutional neural network to classify CT slices as hemorrhage or no hemorrhage. If hemorrhage is detected, pinpoint this region.
Keywords: Classification, Deep Neural Networks, Convolutional Neural Networks

Automation of Order and Delivery Process using Service-Oriented Architecture

Java, WSDL, BPEL, BPMN, Apache Tomcat, Apache ODE

Automation of pizza order process with integration of delivery, payment and shipping service modules
Keywords: Service oriented Architecture (SOA), process automation, orchestration, choreography, service composition

Virtual Advertising using Image Processing and Computer Vision

MATLAB

Projection of an advertisement virtually on sports video feed so as to look like the a part of the video itself
Keywords: Virtual Advertising, Image Processing, Computer Vision, Morphological Operations, Geometric Transforms, Homography, Camera Parameters

Multi-Player LUDO game

C++; SDL2 for GUI

Implemented traditional ludo game complying to Object-Oriented design paradigm

Electric Vehicle Solar Championship

Electronics and Control Department

Designing a motorized control of a solar vehicle for a competition organized by Imperial Society of Innovative Engineers, India

Anthropomorphic end-effector using Shape Memory Alloy

MATLAB, Python

Development of 6-DoF end-effector for pick and place applications.
Responsibility: Simulation and development of control algorithm

Spatial and Temporal study of odour localization with single and multi-agent

MATLAB, Python

Simulation and implementation bio-inspired algorithms for Diffusion Dominated Fluid Flow and Turbulence Dominated Fluid Flow completely observable environments with Gaussian Plumes