Jitesh N Joshi

Career Interests

Areas: Artificial Intelligence, Computer Vision, Optics, Systems Engineering, Healthcare Technologies
Roles: Researcher, Technical Architect, Project Manager

Profile Summary

- Experience in leading R&D team in an organization focused on medical device development
- Architected algorithms for devices including medical imaging and physiological monitoring
- Areas of patents: AI algorithms, opto-electro-mechanical system for bio-medical imaging, and home-dialysis system.

Education

University College London, London, United Kingdom
Ph.D., Computer Science (pursuing) 2020 – 2024

Universitat Pompeu Fabra, Barcelona, Spain
M.Sc., "Cognitive Systems and Interactive Media" 2010 – 2011
Score: 7.67/10 | Credits: 60

Nirma University, Ahmedabad, India
B.Tech., "Electronics and Communication" 2004 – 2008
Score: 7.69/10 | Credits: 186

Professional Experience

- **University College London, UK**
  Post-graduate Teaching Assistant (Computer Science) Oct 2020 – Ongoing
  - Teaching and project mentoring for: Computer Vision, Machine Learning, Research Methods and Making Skills, Python, Physiological Computing

- **Tata Elxsi Ltd, Pune, India & London, UK**
  Technical Specialist (Health and Life Science) Oct 2016 – Ongoing
  - Technical Lead and Architect (Deep Learning/ Machine Learning, Image Processing, Optics, Systems Engineering)
  - Managed project team and communications with customers

- **Azoi Inc, Ahmedabad, India**
  Lead R&D Engineer Aug 2014 – Sept 2016
  - Lead the team of young R&D engineers as well as validation engineers
  - Developed algorithms, designed proof of concept for health tracking device

- **National Brain Research Centre, Gurgaon, India**
  Senior R&D Engineer Dec 2011 – Aug 2014
  - Researcher in Neuro-Imaging and Neuro-Spectroscopy Lab
  - Research Topic: Functional MRI (fMRI) based investigation of visuospatial perception as diagnostic biomarker in patients with Alzheimer's disease.

- **Cognizant Technology Solutions, Bengaluru, India**
  Programmer Analyst Aug 2009 – Aug 2010
  - Software developer for telecom domain. Language: C++, PowerBuilder

Patents

- Detecting a condition for a culture device using a machine learning model, 2021
- Imaging device with illumination components, 2021
- Compensation of intensity variances in images used for colony enumeration, 2021

Publications and Conference Proceedings

- **J. Joshi**, N. Bianchi-Berthouze, and Y. Cho, 'Self-adversarial Multi-scale Contrastive Learning for Semantic Segmentation of Thermal Facial Images'. arXiv, Sep. 21, 2022. doi: 10.48550/arXiv.2209.10700 [Accepted at British Machine Vision Conference, 2022].
- **Jitesh Joshi**, Bhavesh Shaha, Gaurav Singh, Deep-learning based enumeration of bacterial colonies, July 2019, Techforum at leading US based conglomerate
- **Jitesh Joshi**, Sumiti Saharan, Pravat K. Mandal, BOLDSync: A MATLAB-based toolbox for synchronized stimulus presentation in functional MRI, Journal of Neuroscience Methods, Volume 223, 15 February 2014, Pages 123-132, ISSN 0165-0270, DOI-10.1016/j.jneumeth.2013.12.002.
- Pravat K mandal, **Jitesh Joshi**, Sumiti Saharan, "Visuospatial Perception: An Emerging Biomarker for Alzheimer's Disease", Journal of Alzheimer's Disease, 2012. DOI-10.3233/JAD-2012-120901

Awards and Recognitions

- Project Excellence Award, Tata Elxsi, 2020; Project: Deep-learning based enumeration of bacterial colonies; Role: Technical Architect and Project Manager
- Customer Appreciation Awards at Tata Elxsi, 2019 and 2017
- Won as a Team: Hackathon, May 2019, Tata Elxsi, Pune: AI-based medical image enhancement tool
- Won as a Team: Tata Innovista, 2018 (Piloted Technologies and Intersection of Materials, Biology & Computing) for presenting - Point of Care Diagnostic Device for Malaria and Sickle Cell Disease
- Special prize - Nirma-Labs Young Techno-Entrepreneur Awards, Nirma University, 2007 for presenting - LADAR Model for Terrain Mapping and Ranging using LASER scanning. Team size – 5

Course Work and Certifications

- Courses: Research Methods and Making Skills (UCL, 2021); Affective Computing (UCL, 2021); Executive Data Science Specialization (Coursera, 2019), Deep Learning Specialization (Coursera, 2018); Machine Learning (Coursera, 2013); System Design, Integration and Control; Advanced Interface Design; Real Time Interaction; Research Methodologies; Image and Video Processing (Coursera, 2013); Certification Course (6 months) in Ayurveda (DSVV, 2008);
- Language Proficiency: IELTS (Academic): 7.5 (2019)

Proficiency with Programming, Tools and Platforms

- Programming - Python, MATLAB, C/C++
- OS Platforms for Development: Windows, Linux (Ubuntu) and MacOS
- Embedded Platforms: NVIDIA Jetson Nano, TX1, TX2, Arduino
- Frameworks for Algorithm Development: Pytorch, Tensorflow, OpenCV, Scipy, Pandas, Matplotlib, SPM (fMRI analysis), EEGLAB (EEG analysis)
- Development & Project Management Tools: Git, JIRA, Microsoft Office Tools, Microsoft Project Planner, Airtable

Contact Details

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