Prashanth Swaminathan

Education

July 2009 – May 2013 **Bachelor of Technology in Computer Science**.
Amrita Vishwa Vidyapeetham, Coimbatore, India

Bachelor thesis Pragyan: A semantic question answering engine.
- Tech: Java, Stanford NLP parser, Dataset from DBPedia, RDF, Jena Framework
- Desc: A question answering engine, that answers 'who, what, when' based questions. This is a new dimension in the field of search engines and information representation.

Oct 2016 – Present **Master Of Science in Informatics**.
Technische Universität München, München, Deutschland

Master Thesis Deep learning based quantification of spine deformations in 3D CT scans
- Tech: Python, PyTorch, Tensorflow, DICOM, Nifti, OpenCV, Docker
- Desc: Detection of scoliotic disorders from a patient's CT scan using Deep learning techniques, in a pipeline from data clearning to quantification of cobb angle. Defended the thesis successfully with a 1.0 grade. Read it here. Code on github

Experience

Full time

Aug 2013 – June 2016 **Senior Software Engineer**, *Robert Bosch*, Bangalore, India.
Worked on HMI for Infotainment systems in leading OEMs like Suzuki, VW, and Nissan.
Served as the go-to guy in the "HMI-Center of Competence" building prototype of future HMI in cars.
Major achievements:
- Contributed in building the Infotainment system in the Bosch Car of the future, which was showcased in CES2015 and CES2016.
- Worked on reducing driver distraction with eye tracking algorithms and haptic touch screens, which also won the "CES 2016 Innovation Award".
- Received the "Young Achiever award" 2014-2015, by the department of Car Multimedia, for my contributions in a major project for a German OEM, and mentoring of new associates.

Work Student

July 2017 - Dec 2018 **Sixt GmbH**, *Data Scientist*, München.
- Worked on developing a machine learning model to predict the optimal way to de-fleet cars.
- Recognized and rewarded with a special cash re-numeration for my contribution in building a fast test-feedback collecting platform for Data Science projects.
- Tech: Python, scikit-learn, Pandas, Amazon Sagemaker, Amazon Lambda.

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Github • webpage

Academic projects

Roboy We are an interdisciplinary team from TUM striving to build and advance humanoid robotics to the state where its robots are just as good as a human body.

- Tech: Python, Tensorflow, Dlib,
- Desc: Computer Vision- Implemented object detection, face detection and recognition and multiple object tracking.
- Demo: A video of the implementation

Roboy Research Reviews A YouTube channel dedicated to explain state-of-the-art research papers in robotics with simple explanation and engaging visualizations.

- Desc: Lead the team by transcribing the paper and narrating the script.

Alpha 17 A First Person Shooter Game.

- Tech: Unity 3D game engine, Javascript, Google SketchUp
- Desc: Developed a first person shooter game in which the mission for the shooter was to save the hostages.

Publications

[1] S. Prashanth Ga Shanmugha Sundaram, Sp Geetha. Demand responsive public transportation using wireless technologies. *Proceeding ACWR '11 Proceedings of the 1st International Conference on Wireless Technologies for Humanitarian Relief*, pages Pages 449–453, 2011.

Achievements and Awards

- "Overall performance award" 2009-2013, Dept of CS, Amrita University.
- Regional Finalist in the ICPC programming competition 2011 conducted by ACM
- Delivered lecture on 'Demand based public transportation and smarter traffic signals' at the TEDx, Coimbatore
- Presented my paper, and won the first prize in iNSCRIBE 2011, a national paper presentation competition, conducted by Robert Bosch India.

Skill Set

Languages Python, C++, Java, C#, Golang, Javascript

Libraries PyTorch, TensorFlow, scikit-learn, pandas, numpy, Django, .NET, STL C++

Others GNU/Linux, LaTeX, Arduino

Other Interests

Photography, Carpentry, Reading, Movies, Motorbiking, Cooking

Languages

Tamil-Native, English-Expert, German-Basic

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