VISHNU PURUSHOTHAMAN SREENIVASAN

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EDUCATION

University of Pennsylvania, School of Engineering and Applied Science — Philadelphia, PA

Candidate for Master of Science in Engineering, Robotics, GPA : **3.77/4.00** — May 2015(expected)

Relevant coursework: Computer Vision, Machine Learning, Learning in Robotics, Fundamentals of AI.

Current coursework: Computational Linguistics, Database and Information Systems.

National Institute of Technology, Tiruchirappalli (NITT) — Tiruchirappalli, India

Bachelor of Technology in Mechanical Engineering, GPA : **9.08/10.0** — June 2013

Relevant coursework: Basics of Programming, Data Mining.

EXPERIENCE

Software Intern, KeyMe Inc., New York, NY — May 2014 – Aug 2014

- Estimated calibration parameter for key cutting, in key making kiosks using OpenCV-Python.
- Detected depth of cuts on keys for validation using vision.

Coursework Projects, University of Pennsylvania, Philadelphia, PA — August 2013 – Present

- **Learning in Robotics**: Implemented in Matlab, Color segmentation using Gaussian models; 3D orientation tracking using Unscented Kalman Filter; Gesture recognition using Hidden Markov Model; Simultaneous Localization and Mapping (SLAM); Imitation Learning; Multi robot map merging with GraphSLAM.
- **Computer Vision**: Implemented in Matlab, Canny edge detection; Image morphing with Delaunay triangulation and Thin-Plate Spline model; Image mosaicking; Object detection using SIFT.
- **Machine Learning**:
  - *Assignments*: Implemented in Matlab, Decision trees, Adaboost, Perceptrons, SVM (using libsvm), Naïve Bayes and Logistic Regression for classification of standard datasets.
  - *Final Project*: Analyzed sentiments of reviews in yelp website using correlation analysis for feature selection, PCA for dimensionality reduction, and Naïve Bayes and Logistic Regression for classification.

Senior Design Project, NITT, Tiruchirappalli, India — January – May 2013

- Replaced the functionality of a PLC in a single axis industrial grade AC servo motor, with a microcontroller.
- Developed programs for position control, velocity control and torque control.

Research Intern, Technische Universität München, Munich, Germany — May – July 2012

- Implemented "Shift by Wire" functionality in a tele-operated vehicle via a CAN communication system.
- Incorporated failure detection and handling techniques.

Research Intern, Indian Institute of Technology, Madras, Chennai, India — July & December 2011

- Programmed a robot to find the region of minimum brightness of an arena floor using function approximation and optimization using Steepest Descent and Newton's algorithm.

PUBLICATION

Vishnu Purushothaman Sreenivasan, Haitham Bou Ammar, and Eric Eaton. *Online Multi-Task Gradient Temporal-Difference Learning*. In Proceedings of the 28th AAAI Conference on Artificial Intelligence (AAAI-14), July 2014. [Student Abstract]

SKILLS

- Languages: C, C++, Python, Python-OpenCV, exposure to HTML, CSS, SQL.
- Tools: Matlab, CATIA, Visual C++, Photoshop, LaTeX.
- OS: Windows, Linux Flavors.

ACHIEVEMENTS

- Teaching assistant for Introduction to Machine Learning course at the University of Pennyslvania.
- Awarded WISE (Working Internships in Science and Engineering) scholarship by DAAD (Deutscher Akademischer Austausch Dienst) for an internship in Germany for the summer of 2012.
- Ranked in top 1% in All India Engineering Entrance Examination 2009, with million+ test takers.
- Treasurer of the Rotaract Club of NITT-Rockcity, affiliated with Rotary International.