

Prashin Sharma

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Summary

- Robotics Engineer with 7+ years experience.
- Expertise in modeling and designing of mechanical systems, aerial/ground robots.
- Skilled in Computer Aided Designing, analysis of components and machining.
- Effectual leader, offering robust qualifications in coordinating diverse teams, continuous process improvement, field management and human relations.

Education

- *PhD Candidate, Robotics Institute* 2017-2021
Advisor : Prof. Ella Atkins
University of Michigan, Ann Arbor, MI
- PHM Society Short Course : Analytics for PHM 2020
- *Professional Education - Short Course* 2015
Massachusetts Institute of Technology, Boston, MA
Rapid Robotics : Autonomous System with Open Source Software
- *Master of Science, Mechanical Engineering* 2010
Carnegie Mellon University, Pittsburgh, PA
- *Bachelor of Engineering, Mechanical Engineering* 2008
PCE, Mumbai University, India

Achievements

- 1st Place, Into the Dataverse Hackathon organized by National Security Innovation Network, to develop AI enabling user interface to capture structured and unstructured maintenance data 2019
- People's Choice award winner in Scientific Visualization Competition at Engineering Graduate Student Symposium, University Of Michigan 2018
- Best Student Paper at AIAA Aviation Forum in Atmospheric Flight Mechanics category 2018

Certifications

- Certificate of Competence : Applications of AI for predictive Maintenance, NVIDIA Deep Learning Institute 2020
- Certificate of Competence : Applications of AI for Anomaly Detection, NVIDIA Deep Learning Institute 2020

Courses

Model Predictive Control
AI Foundations

Non Linear Systems
Rotary Wing Vehicles

System Identification
Adaptive Control

Professional Skills

CONDUIT® System ID
Linux / Mac OS / Windows

Solid Works CAD
Robot Operating System

C/C++
Matlab

Work Experiences

Graduate Student Instructor

Course - Experimental Unmanned Aircraft System, University of Michigan

Winter 2019

- Assisted lecturers in designing course material and design of experiments.
- Guided students through lab experiments and help them debug flight software on embedded system written in C.

Managing Director
Hindustan Security Force, Mumbai

2013- 2017

- Overseeing security technology governance and associated risk management.
- Formulation and implementation of industry leading security programs.
- Created strategic roadmap for full lifecycle of new and existing solutions.
- Delivered competitive research and analysis to position company for growth.
- Structuring company policies and streamlining its operations by developing Quality Management Systems, leading to ISO 9001 certification.
- Trained, coached and mentored staff towards process improvement for operational excellence.
- Strategic planning and management of business relationships and customers loyalty program.
- Implemented innovative programs to reduce attrition rate and increase employee loyalty.
- Introduced new electronic security measures for existing clients.

Mechatronic Engineer
AdvantechUS Inc. , Pittsburgh, PA

- Played a key role in all phases of development, testing and commissioning of an inline vacuum coating system using e-beam deposition technique. 2010-2013
- Implemented event based controller for performing system task, such as mask alignment with substrate, trolley load/unload/transfer and mask exchange in the inline system.
- Responsible for tuning and testing of high precision alignment stage and delivering sub-micron accuracy.
- Developed graphical user interface in VB.Net for controlling welding robot and multi axis alignment stage.
- Interfacing and programming of controllers to perform tasks at system level.
- Recommended design modification to eliminate system malfunction and failure.
- Interfaced with process experts, fabrication vendors and assembly technician to realize process objectives.
- Developed and executed, validation methods to assure results have been accomplished.

Journal Publications

- Juan Paredes, Prashin Sharma, Brian Ha, Manuel Lanchares, Ella Atkins and Illya Kolmanovsky, "Development, Implementation, and Experimental Outdoor Evaluation of Quadcopter Controllers for Computationally Limited Embedded Systems", ARC IFAC (Submitted), 2020.
- Prashin Sharma and Ella M. Atkins, "Experimental Investigation of Tractor and Pusher Hexacopter Performance", AIAA Journal of Aircraft, 2019.
- Prashin Sharma, Ella Atkins, "Multicopter Aerodynamics and thrust characterization", Journal of Visual Experiments, 2019.
- Prashin Sharma, "Shape Memory Alloy Actuator for Bio-medical application" Vol. 6 - Issue 2 February - 2016, International Journal of Engineering Research and Applications.

Conference Publications

- Prashin Sharma, Ella M. Atkins, "Prognostics based decision making for safe autonomous flight", Doctoral Symposium PHM Conference 2020 (Accepted).
- Prashin Sharma, Cosme A. Ochoa, and Ella M. Atkins, "Sensor constrained flight envelope for urban air mobility", AIAA Scitech 2019 Forum.
- Prashin Sharma and Ella M. Atkins, "An Experimental Investigation of Tractor and Pusher Hexacopter Performance", Atmospheric Flight Mechanics Conference, AIAA Aviation 2018.
- Prashin Sharma, Iacopo Gentilini and Kenji Shimada, "Optimizing path for kinematically redundant robotic inspection system using Obstacle Based Probabilistic Roadmap and Genetic Algorithm", IEEE TENCON 2016 Conference.

Other Publications

- Ambrose Thomas, Poohsan Tamura, Blake Brocato, Brian Bucci, Jeff Conrad, John Shelapinsky, Prashin Sharma, Scott Lauer, and Whit Little. "46.2: Invited Paper: Micron-Patterned Deposition through Shadow masks with high precision alignment for OLED and e-Paper applications." SID Symposium Digest of Technical Papers, 44: 637-639.
- Prashin Sharma, "Modern era security threats", Vol. 66- Issue 15, January - April 2016, World Association of Detectives, Beyond Global Newsletter44.

Volunteer Work

- Drones and their application webinar at Vision Engineering Fair, 2020.
- E-VTOL Flight Test Committee Council Member.
- FAA Safety Team representative.
- Volunteered for Lego Mindstorm Activity 2019, organized by GradSWE for Girl's Scout.
- Invited as a reviewer for IEEE Transactions on Instrumentation and Measurement.
- Invited as a reviewer for AIAA Journal of Aircraft, Journal of Aerospace Information Systems.
- Invited as a reviewer for IEEE TENCON 2016 conference.