Taashi Kapoor

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120 Andrew Pl, APT 401, West Lafayette, IN; (765)-772-6807

An Aerospace Engineer with application experience in the fields of Robotics, Artificial Intelligence, Computer Vision, Machine/Deep Learning, Control Systems, Systems Engineering and Design looking for full-time opportunities

EDUCATION

PURDUE UNIVERSITY, West Lafayette, IN
Master of Science in Aerospace Engineering **August 2020 - Present**
- Concentration in Autonomy and Control, Systems Engineering Cumulative GPA 3.75/4.0
- Thesis: AI-assisted perception of environment using drone swarms

Bachelor of Science in Aerospace Engineering **August 2016 – May 2020**
- Concentration in Propulsion, Dynamics and Control and Design Cumulative GPA 3.46/4.0
- Semester Honors & Dean's List (2017, 2019, 2020)

PROFESSIONAL EXPERIENCE

BLUEYONDER **May 2021 – August 2021**
Product Development Intern
- Prototyped an autonomous 3D mapping and warehouse inventory management UAV
- Developed computer-vision based GPS-denied path planning and cycle counting software

AUTONOMOUS & INTELLIGENT MULTI-AGENT SYSTEMS LAB **August 2020 – Present**
Research Assistant
- Devised a fully autonomous, multi-agent COVID-19 UV-C light sanitization UAV system
- Integrated Edge-AI with a companion computer to enhance object detection up to 7 times in full HD

HYBRID SYSTEMS LABORATORY DRONE SWARM **May 2019 – December 2019**
Research Assistant
- Authored Python code for an autonomous drone swarm and demonstrated proof of concept using UWB
- Optimized Loco Positioning System placement and drone trajectories for better accuracy during maneuvers

ROCKWELL COLLINS **May 2017 – July 2017**
Advanced Projects Intern
- Designed and manufactured an IP68 GPS Tracker to be implemented in highly sensitive areas using CATIA
- Developed the GUI for a Perimeter Secure Radar System to be applied in Military Zones through NetBeans

ENGINEERING PROJECTS

INTRUSION DETECTION SOFTWARE (ECU) – ROLLS ROYCE **August 2021 – Present**
- Created classifiers for Deep Neural Networks (DNN) for supervised and unsupervised learning
- Optimized Intrusion Detection Software (IDS) to run on Embedded Systems (ES) within turbofan engines

AI TRACKS AT SEA – NIWCP **August 2020 – December 2020**
- Authored software to automatically generate georeferenced tracks of maritime vessel traffic from a single electro-optical camera imaging the traffic from a moving platform

AUTONOMOUS INDOOR PYLON RACING PLANE (SENIOR DESIGN) **January 2020 – May 2020**
- Constrained aerodynamics via XFLR5, devised propulsion system, aircraft structure, internal components
- Authored autopilot code to meet mission requirements through a motion capture system

MASTEN AEROSPACE RFP **August 2019 – May 2020**
- Formulated thermal heating models to simulate heating on cislunar lander legs due to engine plume
- Conserved lander weight and established universal boundary conditions applicable to all future lunar landers

SOFTWARE AND PROFESSIONAL LITERACY

- JAVA, ESRI, CATIA, MySQL, C/C++, Python, Linux, Matlab, Simulink, Visual Basic, HTML, CSS, ES, GitHub, Arduino, Raspberry Pi, Solidworks, CasADi, Gazebo, ANSYS suite, AutoCAD, XFLR5, QT, AI, OpenCV, PixHawk, ROS, SLAM, Object Detection, Obstacle Avoidance, 3D Mapping, LIDAR, DNN, IDS
- University of Pennsylvania robotics certificates in Estimation and Learning, Perception, Aerial Robotics, Mobility and Computational Motion Planning