Dipak Sairamesh

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EDUCATION

Northeastern University **Boston, USA**
Masters in Robotics – STEM *September 2021 - December 2023*
Relevant Coursework : Robot Mechanics, Mobile Robotics, Control Systems Engineering, Reinforcement Learning, Computer Vision, Assistive Robotics, Human-Computer Interaction, Foundations of A.I.

PES University **Bangalore, India**
Bachelors in Mechanical Engineering *July 2014 - June 2018*
Honors : First Class with Distinction Recipient

SKILLS

Language / Framework - C++, Python, PyTorch, Keras, Tensorflow, NLP, Gen AI, Gazebo, Java, SQL, ReactJS
Software / Library - Jupyter, Git, JIRA, OpenCV, Numpy, Scipy, Scikit-learn, ANSYS, MATLAB, SIMULINK
Design / Modelling - Adobe, Figma, SOLIDWORKS, Siemens NX, AutoCAD, Fusion360, Blender, Cura, Prusa
OS / Cloud / Virtualization - ROS, MacOS, Linux, Arduino, Raspberry Pi, AWS, VMWare, MS Hyper-V, Colab
Visualization Tools - Matplotlib, PIL, Pygame, Rviz, LaTex, Visio, Tableau, PowerBI, Ekahau, Grafana, Kibana

WORK EXPERIENCE

College of Arts, Media, and Design **Boston, USA**
Makerspace Co-op *January 2023 - June 2023*
- Facilitated in-depth training sessions for over 200 students as well as faculty, providing technical support for enhancing proficiency in operating advanced machinery, corresponding software, and integrated CAD/CAM
- Expedited prototyping in laser cutting, 3D printing, CNC routing by 25% through configuration optimization
- Optimized workflow enhancements and led a team of student staff to supplement the makerspaces through the establishment of a new Creative Technology Laboratory for interdisciplinary collaboration and innovation

Aruba Networks **Bangalore, India**
Customer Advocacy Engineer, Software Development and Delivery *February 2020 - July 2021*
- Created validation and debugging scripts for device migration using Inventory and VisualRF data leveraged from Aruba REST APIs, cutting the overall migration process time in half while ensuring no downtime
- Developed Tableau dashboards for Aruba User Experience Insights to improve internal data visibility of cape sensors, reducing the time to resolve application responsiveness and user experience issues by 33%
- Orchestrated configuration of a high performance 7-node Aruba Central On-Premises solution architecture supporting up to 25,000+ network devices, facilitating seamless transition from legacy network management
- Improved and documented operational insights for several KPIs using custom Grafana dashboard templates compiling time series database of Prometheus as well as AWS Elasticsearch with real-time alerting

Aruba Networks **Bangalore, India**
Intern, Aruba High-Touch Services *February 2019 - January 2020*
- Mentored a cross-functional team of 10 responsible for spectrum analysis on a global scale, servicing high-profile fleets of cruise ships and IKEA sites, accelerating project delivery by 20% and validation time by 50%
- Streamlined delivery of fulfilled predictive surveys by implementing template automation across planning, design, and execution stages resulting in an exceptional 300% increase in resource efficiency and throughput

Bosch Automotive Electronics India Pvt. Ltd. **Bangalore, India**
Intern, Automotive Electronics and Sales *May 2017 - June 2017*
- Collaborated on developing an eco-friendly electric-hybrid vehicle with advanced safety features resulting in a novel, eco-friendly transportation solution using Arduino, ECUs, GSM/GPRS modules, and other hardware
- Improved calibration accuracy, designed intricate circuit board schematics, and meticulously engineered the assembly of the vehicle wiring harnesses, facilitating successful field-testing, and ensuring optimal durability

PROJECT EXPERIENCE

Deep Learning **Boston, USA**
Reinforcement Learning | Computer Vision *September 2022 - December 2022*
- Expanded the capabilities of a sudoku solver leveraging Monte Carlo Tree Search, Deep Q-Learning, and off-policy actor-critic reinforcement learning algorithms, increasing puzzle solving efficiency by 15%
- Applied semantic segmentation with PyTorch for detection of lawn boundaries by training and evaluating a U-Net model on ADE20K dataset, improving boundary detection accuracy to 90%

Mobile Robotics **Boston, USA**
Autonomous Mobile Robot, Turtlebot3 *September 2021 - December 2021*
- Accomplished frontier-based exploration to develop occupancy grid maps in a simulated disaster environment detecting 95% of targets or ‘36h11' Apriltags within the stipulated time post GMapping (Laser based SLAM)

Assistive Robotics **Boston, USA**
Crater Observing Bio-Inspired Rolling Articulator (COBRA) *September 2023 - December 2023*
- Integrated Intel RealSense camera, battery, latching mechanism, Jetson Orin, and Raspberry Pi in COBRA version 2.0, implementing object detection and semantic segmentation for better environmental awareness