FASEEH AHMAD

DETAILS

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EDUCATION

2020 - 2025
Lund, Sweden

PHD IN COMPUTER SCIENCE
Lund University

- **Failure Recovery in Robotics:** Developing reliable strategies for robots to detect, identify, and recover from failures using AI techniques like deep learning and reinforcement learning.
- Adaptive Behavior Trees and Motion Generators (BTMGs): Learning to adapt BTMG parameters to task variations using Gaussian processes and support vector machines, optimizing robot performance in dynamic environments.
- Skill-based Multi-objective Reinforcement Learning: Combining task-level planning with reinforcement learning to optimize robot tasks in industrial settings, ensuring safety and performance through multi-objective Bayesian optimization.
- Robot-agnostic Skills for Contact-Rich Tasks: Utilizing knowledge representation and task planning to develop flexible, transferable skills for robots, demonstrated through contact-rich tasks like wiping with various robotic systems.
- Financed by WASP Sweden
- Preliminary Thesis Title: Towards the better understanding of Behavior Trees and Motion Generators (BTMG) for Robot Behaviors
- Supervised by Prof. Dr. Volker Krueger, Assoc. Prof. Dr. Elin Anna Topp and Prof. Dr. Jacek Malec

2016 - 2019
Istanbul, Turkey

M.S. IN MECHATRONICS ENGINEERING
Sabanci University

- Hybrid Planning for Construction Problems: Applying Answer Set Programming (ASP) to enable robots to solve complex construction problems, ensuring stable and feasible plans for tasks like building bridges and overhangs.
- Thesis Title: Robot Construction Problems as an application of answer set programming.
- Supervised by Prof. Dr. Esra Erdem and Prof. Dr. Volkan Patoglu

2011 - 2015
Lahore, Pakistan

B.SC IN MECHATRONICS ENGINEERING
University of Engineering and Technology

- Thesis title: Design and Construction of a Search and Rescue Robot.
- Supervised by Assoc. Prof. Dr. Ali Raza

ACADEMIC EXPERIENCE

2020 - 2024
Lund, Sweden

TEACHING ASSISTANT
Lund University

- Artificial Intelligence
- Applied Machine learning
- Intelligent Autonomous Systems

2016 - 2019
Istanbul, Turkey

GRADUATE RESEARCHER
Cognitive Robotics Lab, Sabanci University

- Worked on NP-hard problems like robot construction problem such as stacking, sorting and stability tests.
- Responsibilities included:
  1. Organised demonstrations with BAXTER and Kuka robots for the student visits.
  2. Conducting simulations with Gazebo and integrate it with ROS.

2016 - 2019
Istanbul, Turkey

TEACHING ASSISTANT
Sabanci University

- Served as a teaching assistant for Math 101 (Calculus I), Math 102 (Calculus II), Math 202 (Introduction to Differential Equations), and Math 203 (Introduction to Probability).
- Responsibilities included solving questions in recitations, conducting quizzes, and grading exams.

2016 - 2019
Istanbul, Turkey

ACADEMIC DEVELOPMENT PROGRAM (ADP)
Sabanci University

- Assisted in the Academic Development Program, helping students strengthen basic concepts in various courses, enhancing their academic performance and understanding.

2015 - 2015
Lahore, Pakistan

TEACHING ASSISTANT
LUMS

- Worked as a TA in the Engineering Laboratory, focusing on industrial machines like CNC and lathe
- machines, conducting quizzes, and helping students grasp theoretical concepts. Also contributed to research in the field of forestation.

HOBBIES

- I enjoy hiking, playing video games, and reading science fiction.