

MAURICE RAHME

 moribots.github.io

 github.com/moribots  +1 224 244 1684  mauricerahme2020@gmail.com  linkedin.com/in/mauricerahme  Chicago, IL

PROJECT HIGHLIGHTS

Baxter Plays Checkers

Northwestern University  Nov 2019 – Dec 2019  Evanston, IL



- Programmed a Baxter robot to play a full game of checkers.
- Project completed using ROS, MoveIt, OpenCV, and a custom AI move generator based on the minimax algorithm with alpha-beta pruning.
- Won 1st Place out of 6 teams 🏆.

Navigation & Localization Algorithms

Northwestern University  Sep 2019 – Nov 2019  Evanston, IL

- Implemented an RRT algorithm to navigate geometric and pixel-based maps.
- Wrote a Particle Filter for landmark-based localization of a mobile robot.
- Modelled an obstacle map and programmed offline and online A* algorithms supplemented by a PID controller to navigate it.

BEng Thesis: PATBLC

The University of Edinburgh  Jan 2019 – May 2019  Edinburgh, UK

- Designed and built two laser transceivers to command an underwater rover. Inverse Kinematics based motor actuation maintains system uplink.
- Programmed pointing and tracking algorithm using elliptical template matching via occlusion-resistant camera input using Kalman-filtering in LABVIEW.
- Awarded prize: IMechE Best BEng Project for 2019 🏆.

EXPERIENCE

Building Automation Intern

ASEA BROWN BOVERI (ABB)  May 2018 – Aug 2018  Dubai, UAE

- Co-designed the GRMS layout for the Zabeel One project worth 500,000\$.
- **Extension to August:** developed a building automation design tool using VBA. It generates a bill of quotation in PDF format. Saved 5 hours per client order.

Electrical Engineering Intern - Body Control Module (BCM)

Jaguar Land Rover  Jun 2017 – Sep 2017  Gaydon, UK

- Received 'Outstanding' grade on performance review.
- Led and took minutes for 10-person open issue list meetings and implemented a task allocation and follow-up system to boost work output.
- Produced BCM code for the 2017 Frankfurt Autoshow in STATEFLOW.
- Developed a digital strain gauge and line and wall following RC-car module to supplement JLR's '4x4 in Schools' competition.

Aerodynamics '17 & Suspension '18 Team Manager

Edinburgh Univ. Formula Student  Jul 2016 – Jul 2018  Edinburgh, UK

- Designed and manufactured Aerodynamic and Suspension components.
- Managed teams of 8-10 people in each post and led training workshops.
- Taught and assisted team members with CAD in SOLIDWORKS.
- Used SIMULINK to calculate wheel braking and cornering forces.
- Built a MATLAB design tool for Parallel/Ackermann steering design.
- Reviewed design reports and raised £9,000 in sponsorship.

EDUCATION

MSc in Robotics

Northwestern University  2019 – 2020

- GPA: 3.85/4.0

B.Eng (Honors) in Electrical & Mechanical Engineering












The University of Edinburgh  2015 – 2019

- First Class (GPA: 4.0)


</> LANGUAGES

Python	
C++	
C	
LabVIEW	
MATLAB/SimuLink	
VBA	

SKILLS

ROS	
Robot Manipulation	
Machine Learning	
Artificial Intelligence	
Path Planning	
Bayesian Filters	
Linux	
Version Control (Git)	
OpenCV	
Analogue Electronics	
SolidWORKS	


AWARDS

 **IMechE - Best BEng Project**
The University of Edinburgh
The Institution of Mechanical Engineers

 **The Edinburgh Award**
The University of Edinburgh

 **The Spirit of Formula Student**
Formula Student UK

👤 LANGUAGES

English	
French	
Arabic	
Spanish	