AZMAINE IQTIDAR

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EDUCATION

PRINCETON UNIVERSITY, PRINCETON, NJ — September 2017- June 2021
Department of Mechanical and Aerospace Engineering — (Current GPA: 3.3)
Intended Certificates: Robotics and Intelligence Systems, Engineering Physics

CAMBRIDGE INTERNATIONAL GCE O/A LEVELS, OXFORD INTERNATIONAL SCHOOL — May 2013 – June 2017
Class Valedictorian

HONORS

- Honorable Mention, **International Physics Olympiad** 2016 (**Switzerland**) and 2017 (**Indonesia**)
- World Highest Scorer in Mathematics and Country Highest Scorer in Computer Science, AS Level, Outstanding Cambridge Learner Awards (2016)
- Country highest scorer in Economics, O Level, Outstanding Cambridge Learner Awards (2015)

EXTRACURRICULAR ACTIVITIES

- Represented Princeton University in the **International CanSat Competition 2018** with the **Princeton Rocketry Club**
- Participated in the **7th Annual Brown IEEE Robotics Competition (2018)** with the **Princeton Robotics Club**
- Member of the **Princeton University Chess Club** and **Princeton MMA Consortium** (concentration in **Muay Thai** and **Brazilian Jiu Jitsu)**

ENGINEERING EXPERIENCE

Mechanical Engineer at **Leonard Lab** | Princeton University — June 2018 – August 2018

- Set up an experiment consisting of a **VICON** system, **Spotlights**, and **KOBUKI TurtleBots** integrated under **ROS** (Robot OS)
- Wrote code to solve first-order differential equations by compiling data from the aforementioned systems via sensors and VICON cameras, and rerouting the results to the TurtleBots in real time

International CanSat Competition 2018
Part of a team which worked on designing and constructing an **Aero-Braking Atmospheric Entry Probe**

- Designed, modeled (via CAD), 3D printed, and assembled the body of the probe based on differential equations for the drag experienced by a body in a uniform hypersonic flow
- Designed, implemented and tested the parachute release mechanism for the probe

7th Annual Brown IEEE Robotics Competition (2018)

- Designed and constructed 16 cm x 16cm **maze solving robot**
- Wrote the maze solving algorithm (an enhanced version of Trémaux's algorithm where the robot has a built in reference for tracking its location)
- Integrated sensors and encoders into the breadboards and interfaced them with my code via library subroutines

International Aerial Robotics Competition (2019)
Currently part of a team programming a Parrot Bebop Drone to enable it to interact with a human being and perform certain designated tasks (as part of the competition)

SKILLS

Software:

- Programming: **Java**, **Python** and **C++**, with a working knowledge of Visual Basic .Net
- Computer Aided Design (CAD): **Siemens NX**, **CREO** and **SolidWorks**
- **Robot Operating System (ROS)**
- **DMX** Lighting Control
- Highly proficient in **MATLAB**, **Wolfram Mathematica**, **LaTeX** and Microsoft Office

Hardware: **Arduino**, **Rasberry Pi**, **TurtleBots**, with a working knowledge of circuits and sensors

Spoken Languages: English, Bengali