Neeraj Balachandar

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Education

Indian Institute of Technology Hyderabad	**Nov. 2022 – May 2026**
Bachelor of Technology in Mechanical and Aerospace with minor in Robotics	*Hyderabad, Telengana*
Kuriakose Elias English Medium School	**Jul. 2020 – Jul 2022**
High School Degree in Computer Science	*Kottayam, Kerala*

Relevant Coursework

- Linear Algebra
- Transform Techniques
- Numerical Methods
- Differential Eqns
- Incompressible Flows
- Mechanics of Solids
- FEM and CFD
- Parallel Scientific Computing
- Optimal Control
- Convex Optimisation
- Matrix Theory
- Advanced Learning Algorithm
- Introduction to Robotics
- Autonomous Robotics
- Soft Robotics
- Control Systems

Experience

Dynamics and Control Lab, IIT-H	**Feb 2024 – Present**
Research Student	*Hyderabad*

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CIEDS-ENSTA, Ecole Polytechnique De Paris	**Nov 2024 – Mar 2025**
Research Student	*Route De Saclay, Paris*

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Aerospace Dept, Indian Institute of Science	**May 2024 – Aug 2024**
Research Intern	*Bangalore, India*

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Projects

Gym Reservation Bot | *Python, Selenium, Google Cloud Console* — **January 2021**
- Developed an automatic bot using Python and Google Cloud Console to register myself for a timeslot at my school gym.
- Implemented Selenium to create an instance of Chrome in order to interact with the correct elements of the web page.
- Created a Linux virtual machine to run on Google Cloud so that the program is able to run everyday from the cloud.
- Used Cron to schedule the program to execute automatically at 11 AM every morning so a reservation is made for me.

Ticket Price Calculator App | *Java, Android Studio* — **November 2020**
- Created an Android application using Java and Android Studio to calculate ticket prices for trips to museums in NYC.
- Processed user inputted information in the back-end of the app to return a subtotal price based on the tickets selected.
- Utilized the layout editor to create a UI for the application in order to allow different scenes to interact with each other.

Transaction Management GUI | *Java, Eclipse, JavaFX* — **October 2020**
- Designed a sample banking transaction system using Java to simulate the common functions of using a bank account.
- Used JavaFX to create a GUI that supports actions such as creating an account, deposit, withdraw, list all acounts, etc.
- Implemented object-oriented programming practices such as inheritance to create different account types and databases.

Technical Skills

Languages: Python, Julia, C, MATLAB, Arduino IDE lang, Latex, XML
Technologies/Frameworks: ROS, Gazebo, SOFA, FLOWUnsteady meshless LES, GitHub, Ansys Fluent, Simulia Abaqus, Autodesk Fusion, SolidWorks, Simulink, Paraview

Leadership / Extracurricular

Fraternity	**Spring 2020 – Present**
President	*University Name*

- Achieved a 4 star fraternity ranking by the Office of Fraternity and Sorority Affairs (highest possible ranking).
- Managed executive board of 5 members and ran weekly meetings to oversee progress in essential parts of the chapter.
- Led chapter of 30+ members to work towards goals that improve and promote community service, academics, and unity.