

# Basil Reji

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## EDUCATION

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### Northeastern University (College of Engineering), Boston, MA

Master of Science in Robotics concentration in Electrical & Computer Engineering

May 2024

**Relevant Courses:** Supervised Machine Learning, Data Visualization, Robotics Sensing & Navigation, Robot Mechanics & Control

### Cochin University of Science & Technology, Kochi, India

Bachelor of Technology in Electrical & Electronics Engineering

Apr 2021

## TECHNICAL SKILLS

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- **Programming languages:** C, Python, MATLAB, Arduino, HTML5, CSS, ROS, Java, JavaScript
- **Data Engineering Tools:** SQL, Azure Data Factory, Azure Synapse Analytics, Microsoft Power BI, Tableau, Github
- **Libraries:** PySpark, Pandas, NumPy, SciPy, Matplotlib, OpenCV

## PROFESSIONAL EXPERIENCE

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### Ernst & Young, Kochi, India

Associate Software Engineer

Oct 2021 – Jun 2022

- Engaged in creating and allocating data warehouse for EY Assurance team as part of the Assurance Data Integration Project
- Developed Python scripts and ADF pipelines in Azure Synapse Analytics and Azure Data factory for automation of data discovery, data manipulation and storage to data lake
- Performed Quality Assurance testing, visualizations and report preparation to test and interpret the final data and programs

### Hound Electric, Kochi, India

Research & Development Intern

Mar2021 – Aug 2021

- Built an electric bike in partnership with Hound Electric that uses gyroscopes and accelerators to sense changes in terrains and modifies torque being applied to the linked Bafang motor, maintaining stability of pedaling
- Analyzed the data collected from the bike using data visualization tools to compare the efficiency of the bike prior models and achieve an efficiency of 90% or higher

## ACHIEVEMENTS

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- Second Position **Internationally** in Myron Zucker Project Design contest conducted by IEEE Industrial Applications Society
- First Position in national level VLSI (Very Large-Scale Integration) Competition conducted by Indian Institute of Technology (IIT) Roorkee
- Best Mentor Award from IEEE Outreach for Resources in Engineering (IEEE ORE) for coaching Internet of Things

## ACADEMIC PROJECTS AND PUBLICATIONS

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### All Directional Robot, Kochi, India

- Designed a robot that can navigate in all directions using specially designed omni directional wheels and controlled by Arduino, HC05 Bluetooth module and Stepper motors to decrease the area required for vehicular turning by 70%
- Won International Award from IEEE Industrial Application Society as part of its CMD Awards

### Smart Cap for Prevention of Contagious Diseases, Kochi, India

- Designed a multi-functional smart cap which recognizes humans in one meter proximity and alerts us to maintain social distancing, stores the GPS location for authorities to track spread in case of an outbreak
- Authored and published a research paper in international journal "IEEE Bangalore Humanitarian Technology Conference" in October 2020, Volume 23, Issue 2, ISSN: 1234-5678

## LEADERSHIP POSITIONS

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- Chairperson, IEEE Power & Energy Society, CUSAT Student Branch
- Research & Development Ambassador, IEEE Power & Energy Society, Kerala Section
- Technical Lead, Google Developer Student Club CUSAT