

Date: May-12, 2022

Statement of Purpose

Dear Sir/Madam,

I am feeling great to apply for M.Tech in Control Systems Engineering under Department of Electrical Engineering, IIT Kharagpur. I am interested in Control Theory and Multi agent Robot Systems.

I am interested in implementation of robots in the agricultural sector. I want to explore multi robot coordination and implement my learning in the agricultural sector. I believe the M.Tech program in Control Systems Engineering under Department of Electrical Engineering will help me strengthen my knowledge and provide a platform to contribute back to community.

My journey in robotics started during my days at High School, there I got opportunity to make 6-leg spider robot based on Klann Linkage. During 4 years of engineering I got to learn PCB Design, AVR and ARM Cortex Microcontroller, PLC, Control Theory and Power Electronics. During my engineering I got an opportunity to involve in the Robotics Club. There I learned to think robotics from broader aspect. The concept of making a robot do tiny task in coordination with other multiple robot was fascinating for me. Despite having interest in control theory and multi robot system I am unable to explore more on it due to the unavailability of control system lab and mentor.

While in college I made 1-m long dot matrix led display board from the scratch as a startup product in team. I was responsible for designing Circuit in CAD software Eagle, fabricating PCB by electro chemical etching. I was also involved in design and fabrication of AVR Microcontroller based robot control board for engineering students. As a curriculum project I was involved in design and fabrication of grid tie inverter for battery storage system. After completion of my bachelor degree I got engaged in Future Lab Nepal (tech startup in robotics education by IIT Bombay Graduate). There I conducted training on ARM Cortex M3/M4 microcontroller programming and PCB designing for engineering students. I was also involved in designing robotics kit and making e-learning material as a part of e-Yantra Project an initiative of IIT, Bombay.

Currently, I am working as a Lecturer in Korea Nepal Polytechnic Institute and Lumbini Engineering College. I am involved in teaching subjects like Control System Components, Power Electronics and Programmable Logic Controller. I can teach theoretical concept and help student with circuit design and programming. But I have no hands on experience on control theory. As part of my undergraduate curriculum I have just learned the very basic theory of control system design. I want to explore the subject in more details and get hands on experience. M.Tech program in Control System Engineering will help me strengthen my knowledge in control theory and have hands on experience on control system design.

With all above stated experiences, my passion and interest I believe I am the deserving student for the M.Tech in Control System Engineering. Thank you for considering my application and my competency for the program. I look forward for your acceptance.

Sincerely,

Arjun Bhusal

Rupandehi, Nepal

Phone: +977-9843471921

Email: bhusalarjun.51@gmail.com