KOUSHEEK **CHAKRABORTY**

ROBOTICIST | MACHINE LEARNING ENGINEER

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SKILLS

- **Programming Languages**
  - C++
  - Python
  - Labview
  - Matlab/Simulink
- **Computer and Digital Skills**
  - Autodesk Fustion 360
  - 3D printing / Laser cutting
  - Git
  - TCP/IP, UDP, CAN, MQTT
- **Libraries and Frameworks**
  - ROS1 / ROS2
  - OpenCV
  - Tensorflow / Pytorch
  - Eigen
  - PCL
  - .NET Core
  - CUDA, CuDNN

LANGUAGES

- English (Fluent)
- French (Fluent)
- Bengali (Native)

HOBBIES

- Co-author of Technovation (1.7M views)
- Organiser of annual science fair
- Sports - gymnastics, aquatic sports and games (basketball, volleyball, hockey)

My Portfolio

EDUCATION

MSc Robotics and Transport

Ecole Centrale de Lille, Polytech Lille

Sep. 2022 - Present, Lille, France

- Rank 1 - Grade 17.4/20
- Volunteered for the Technical Committee of the RoboCup Logistics League
- Project lead of our team for the CoHoMa contest hosted by the French Ministry of Defence

BSc Mathematics and Computer Science

Sri Aurobindo International Centre of Education

Dec. 2018 - Oct. 2021, Pondicherry, India

- Prize for Academic Excellence - Rank 1 - Grade 85/100
- Volunteer at the university FabLab
- Thesis - Learning Quadrupedal Locomotion through Transfer Learning

EXPERIENCE

Embedded System Engineer

Lynxdrone (Apprenticeship)

Sep. 2024 - Present, Lille, France

- Developed firmware for various microcontrollers (ARM, Atmel)
- Created custom communication protocols for motor control via I2C and PWM

Student Researcher

Laboratoire CRIStAL CNRS UMR 9189

Mar. 2023 - Present, Lille, France

- Built an autonomous drone using a Pixhawk flight computer, a Raspberry Pi offboard computer, the MAVLink protocol, and ROS
- Developed a Qt C++ application for simultaneous control of a drone and mobile robot to achieve aerial ground collaboration
- Implemented a robust communication protocol with a range of 1 km using Wi-Fi and radio connectivity using UDP socket-based custom messaging formats.
- Integrated advanced functionalities like waypoint navigation and autonomous takeoff and landing using ROS2 Navigation Stack

Robotics and Machine Learning Engineer

TU Darmstadt, Intelligent Autonomous Systems (Telekinesis AI)

Aug. 2020 - Aug. 2022, Darmstadt, Germany

- Developed a C++ API to control industrial manipulator arms from ABB and Franka Emika
- Conducted testing and evaluation of visual-inertial odometry algorithms
- Led the design and prototyping of an embedded hand-mounted system to track the orientation of a robot operator's hand
- Developed a Reinforcement Learning Toolkit for robotic applications with 8 algorithms
- Drafted the figures for a patent application related to visual robot programming