

+ 880 1646 442575
+ 358 41 740 53 24

✉ hamidurrk@gmail.com

Md Hamidur Rahman Khan

📧 hamidurrk
📧 hamidurrk
🌐 www.hamidurrk.com

EDUCATION

Lappeenranta, Finland **LUT University** **Sept 2024 - Jul 2027**
• **Major:** Computational Engineering and Artificial Intelligence, B.Sc. | **Minor:** Software and Systems Engineering
• **Programming Coursework:** Fundamentals of Programming, Object Oriented Programming, Basics of Database Systems
• **Computational Coursework:** ML related mathematics, Linear Algebra, Matrix Decomp, Statistics, Probability, Numerical Methods

WORK EXPERIENCE

Teaching Assistant **LUT University** **April 2025 - Present**
• Conducted weekly exercise classes in the Fundamentals of Programming course and provided one-on-one support.
• Maintained the Moodle online resource hub for students, including lecture notes, practice problems, and coding exercises.

Software Developer/Co-author **Political Propaganda Cycle (Research Work)** **May 2024 - Present**
• Currently writing a paper with researchers at University of Kassel and Technical University of Dortmund on Political Propaganda Cycle using the data collected by the bot from the political parties on the social media platforms.
• Developed a bot that automatically interacts with Facebook and Instagram to increase user engagement and scrapes data.
• Leveraged knowledge in Statistics, Sentiment Analysis, Python, Selenium, OpenCV, Pillow, CTK, Matplotlib, SQLite3, Pandas.

Web Developer **Give Bangladesh Foundation** **Sept 2023 - Present**
• Collaborated internationally with Awake Youth Initiative to develop a fundraising website that supports the African underserved slum communities in Nairobi, Kenya. Developed blogs, articles, landing pages, donation and marketplace pages.
• Leveraged knowledge in Full Stack Web Development, Javascript, Git, Figma for UI/UX Design, SEO, and Google Analytics.

ACTIVITIES

National Coach **World Robot Olympiad (WRO)** **Jan 2023 - Dec 2023**
• Successfully led a team of 3 in the Future Innovator segment through the national round, mainly focused on the robotic system, software design, hardware construction, business analysis, and technical presentation.
• Guided two national teams' participation in international competition rounds, one team achieved an impressive, first time in the history of Bangladeshi participants, a silver award out of 451 global teams at WRO '23 Panama.

President, Robotics **Notre Dame Information Technology Club** **Aug 2019 - June 2021**
• Was commissioned by my school's ICT dept to design and build a national curriculum-oriented teaching module: a combined demonstration of clock pulse generators, logic gates, flip flops, registers, counters, and a 7-segment display on a breadboard.
• Organized a 3-day national tech event with 1100+ participants, 8+ robotics competitions by leading a team of 70+ volunteers.
• Mentored 45+ national robotics/project teams, conducted 9 workshops along with 27+ robotics-oriented classes for 150+ students.

AWARDS & ACHIEVEMENTS

Silver Medal • International Blockchain Olympiad (Hong Kong)
Silver Honor • World Robot Olympiad - WRO (Panama)
Bronze Medal • Bangladesh Blockchain Olympiad
Silver Medal • Bangladesh Robot Olympiad
Merit Based Scholarship • LUT University
positioned among top national teams from 44 countries
first Bangladeshi coach to achieve top place among 77 countries
youngest developer to secure top national position at BCOLBD
scored 2nd position among 20,000+ participants
achieved a 4,500 EUR/year scholarship for B.Sc. studies

PERSONAL PROJECTS

Tethr NETWORK TOWER POSITION OPTIMIZER USING MACHINE LEARNING **Python, C++**
• Incorporated non-parametric and density-based Mean Shift clustering algorithm, and Gradient Descent for optimization.
• Integrated a custom-built drone and an automated LIDAR-based ground robot to automate the process of data collection.
• Utilized: Python, C++, Scikit-Learn, OpenCV, YoloV8, Pandas, Raspberry Pi, Jetson Nano, ROS, FastAPI, Tkinter.

Block Meter BLOCKCHAIN-BASED ELECTRICITY BILLING SYSTEM **Python, C++, Solidity**
• Devised an electricity billing system that eliminated non-technical losses by 100% and ensures transparency and immutability.
• Utilized: Python, C++, Solidity, PHP, Javascript, Ethereum, IPFS, BigChainDB, AES Encryption, ESP32, ThingSpeak.

Spectre Bot & Spectre OS LINE FOLLOWER ROBOT WITH CUSTOM OPERATING SYSTEM **C++**
• Spectre bot is a fully custom advanced line follower robot capable of achieving a maximum of 5m/s speed on track.
• Spectre OS is a custom operating system designed to provide advanced control and debugging capabilities for line follower robots.
• Utilized: C++, Arduino, ESP-32, TCRT5000 Sensors, PID controllers, OLED graphics, gear/servo motors, PCB designing, 3D printing.

Assistive Device for Visually Impaired People PROTOTYPE TEXT-TO-BRAILLE GLOVE FOR DIGITAL READING **C++**
• Developed a tactile feedback system embedded in a glove to emulate Braille chars on fingers, translating texts from digital sources.
• Became a national finalist in the NASA Space Apps Challenge 2022 by integrating this glove into an educational space arcade game.
• Utilized: C++, Python, Arduino, ESP32, Tactile Feedback Motors, Type-C Charging, BLE & WiFi Communication, 3D printing.

Personal Website MY PORTFOLIO FOR SHOWCASING PROJECTS (HAMIDURRK.COM) **Typescript**
• Built real-time client-side physics simulation world & integrated modern scroll-triggered animations using Framer Motion & GSAP.
• Utilized: Next.js, React, Typescript, Tailwind CSS, Framer Motion, GSAP, Physics.js, Lenis, SCSS, Vercel.

SKILLS

Software Technology Proficient: Python • Java • C++ • Typescript • Javascript • TailwindCSS • SQL • HTML • SCSS Familiar: C • PHP • Solidity • R • MATLAB
Git • Scikit-Learn • OpenCV • YoloV8 • Next.js • React • GSAP • MongoDB • PostgreSQL • Firebase • MySQL • SQLite • Flask • Django
FastAPI • Pytorch • Pandas • Numpy • Selenium • IPFS • Ethereum • Multichain • Hyperledger Fabric • TKinter • Java Swing • Figma

Hardware Language Arduino • Raspberry Pi • Teensy • ESP32 • STM32 • Sensor and actuator integration in embedded systems
English (IELTS: 7.5) • Finnish (A1 Level) • Bengali (Native) • Hindi (Spoken) • Urdu (Spoken)