

EDUCATION

Lappeenranta, Finland	LUT University	Sept 2024 - Jul 2027
<ul style="list-style-type: none">Major: Computational Engineering, B.Sc. Minor: Software and Systems EngineeringProgramming Coursework: Fundamentals of Programming, Object Oriented Programming, Basics of Database SystemsComputational Coursework: Basics of University Mathematics, Linear Algebra, Matrix Decomposition, Multivariate Calculus		

WORK EXPERIENCE

Web Developer	Give Bangladesh Foundation	Sept 2023 - Present
<ul style="list-style-type: none">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.		
Coder and Trainer	Tesla Lab	Sept 2021 - Aug 2023
<ul style="list-style-type: none">Designed educational materials and took workshops about integrated circuits, embedded systems, internet of things, and drones.Built educational games like Spell Checker and Pong 2D using Java and Python to reinforce interactive programming knowledge.Leveraged knowledge in Java, Python, Git, Robotics and Embedded Systems, Game Development, and Quadcopters.		

ACTIVITIES

National Coach	World Robot Olympiad (WRO)	Jan 2023 - Dec 2023
<ul style="list-style-type: none">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
<ul style="list-style-type: none">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)	positioned among top national teams from 44 countries
Silver Honor • World Robot Olympiad - WRO (Panama)	first Bangladeshi coach to achieve top place among 77 countries
Bronze Medal • Bangladesh Blockchain Olympiad	youngest developer to secure top national position at BCOLBD
Silver Medal • Bangladesh Robot Olympiad	scored 2nd position among 20,000+ participants
Champion • International Tech Carnival-DRMC	fastest line follower to avoid obstacles with zero restarts

PERSONAL PROJECTS

Tethr	NETWORK TOWER POSITION OPTIMIZER USING MACHINE LEARNING	Python, C++
<ul style="list-style-type: none">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
<ul style="list-style-type: none">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++
<ul style="list-style-type: none">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++
<ul style="list-style-type: none">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, Tacile Feedback Motors, Type-C Charging, BLE & WiFi Communication, 3D printing.		
Social Media Bot	AUTOMATED SOCIAL MEDIA INTERACTOR AND DATA SCRAPER	Python
<ul style="list-style-type: none">Developed a bot that automatically interacts with Facebook and Instagram to increase user engagement and scrapes data.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.Utilized: Python, Selenium, BeautifulSoup, OpenCV, Pillow, CustomTkinter, Matplotlib, Sqlite3, Pandas.		
Personal Website	MY PORTFOLIO FOR SHOWCASING PROJECTS (HAMIDURRK.COM)	Typescript
<ul style="list-style-type: none">Built real-time client-side physics simulation world & intergrated 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	Proficient: Python • C • C++ • Typescript • Javascript • SQL • HTML/CSS	Familiar: Java • PHP • Solidity • R • MATLAB
Technology	Git • Scikit-Learn • OpenCV • YoloV8 • Next.js • React • GSAP • MongoDB • PostgreSQL • Firebase • Flask • Django • Figma • Selenium	
Hardware	Arduino • Raspberry Pi • Teensy • ESP32 • STM32 • Sensor and actuator integration in embedded systems	
Language	English (IELTS: 7.5) • Finnish (A1 Level) • Bengali (Native) • Hindi (Spoken) • Urdu (Spoken)	