+ 358 41 740 53 24
hamidur.khan@lut.fi
hamidurrk@gmail.com

Md Hamidur Rahman Khan

hamidurrk
hamidurrk
www.hamidurrk.com

EDUCATION

Lappeenranta, Finland	LUT University	Sept 2024 - Jul 2027

- **Major:** Computational Science and Artificial Intelligence, B.Sc. | **Minor:** Software and Systems Engineering
- **Programming Coursework:** DSA, OOP, Advanced Database Systems, Cybersecurity, Web Programming, SQA, DevOps
- **Computational Coursework:** Linear Algebra, Vector Analysis, Matrix Decomp, Multivariate Calculus, Probabilities & Statistics

WORK EXPERIENCE

Software & Data Engineer	Prime Tech Solutions Limited	May 2025 - Present

- Designed & developed the first census+survey data migration and SDMX system of Bangladesh for Govt. Bureau of Statistics.
- Collaborated with cross-functional Govt. depts to ensure data accuracy, metadata curation integrity, & policy compliance.
- Leveraged knowledge in Python, ETL/ELT Pipelines & Warehousing, Oracle, PostgreSQL, FastAPI, Pandas, SDMX, STATA, SPSS, Git.

Teaching Assistant	LUT University	Sept 2025 - Present

- Conducted weekly exercise classes in the Fundamentals of Programming in Python course and provided one-on-one support.
- Developed attendance management and auto-grading system including project grader that overall improved productivity.

Software Developer/Co-author	Political Propaganda Cycle (Reseacrh Work)	May 2024 - Present

- Ongoing paper with researchers at UKassel and TU Dortmund using the data scraped by me from political figures on social media.
- Leveraged knowledge in Statistics, Sentiment Analysis, Python, Selenium, OpenCV, Pillow, CTk, Matplotlib, Sqlite3, Pandas.

ACTIVITIES

National Coach	World Robot Olympiad (WRO)	Jan 2023 - Dec 2023

- Led a team in the Future Innovators segment (national), focusing on robot construction, software design, & business analysis.
- 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

- Organized a 3-day national tech event with 1100+ participants, 20+ 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.
- 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.

Web Developer	Give Bangladesh Foundation	Sept 2023 - Present

- Collaborated with African NGO, Awake Youth Initiative, & built them a fundraising website for slum communities in Nairobi, Kenya.
- Leveraged knowledge in Full Stack Web Development, Javascript, Git, Figma for UI/UX Design, SEO, and Google Analytics.

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
Silver Medal • Bangladesh Robot Olympiad	scored 2nd position among 20,000+ participants
Bronze Medal • Bangladesh Blockchain Olympiad	youngest developer to secure top national position at BCOLBD
National Finalist • NASA Space Apps Challenge	secured position among 2,000+ nationwide participants

PERSONAL PROJECTS

Block Meter BLOCKCHAIN-BASED ELECTRICITY BILLING SYSTEM *Python, C++, Solidity*

- Devised an electricity billing system that eliminates non-technical losses by 100% and ensures transparency and immutability.
- Utilized: Python, C++, Solidity, PHP, Javascript, Ethereum, IPFS, BigChainDB, AES Encryption, ESP32, ThingSpeak.

Tethr NETWORK TOWER POSITION OPTIMIZER USING MACHINE LEARNING *Python, C++*

- Developed an ML-powered robotic system to optimize 5G network tower locations using automated aerial and ground drones.
- Incorporated non-parametric and density-based Mean Shift clustering algrorithm, and Gradient Descent for optimization.
- Utilized: Python, C++, Scikit-Learn, OpenCV, YoloV8, Pandas, Raspberry Pi, Jetson Nano, ROS, FastAPI, Tkinter.

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.
- Utilized: C++, Python, Arduino, ESP32, Tacile 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 & 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

Programming	Proficient: Python • Java • C++ • JavaScript • Typescript • SQL Familiar: C • PHP • MATLAB
AI/ML & Data Pipelines	PyTorch • Scikit-Learn • OpenCV • YOLOv8 • Pandas • NumPy • R • SDMX • ETL/ELT • Data Modeling & Warehousing
Full-Stack & App Dev	React • Next.js • TailwindCSS • GSAP • FastAPI • Flask • Django • Selenium • Tkinter • Java Swing • Figma
Databases	Oracle • PostgreSQL • MySQL • SQLite • Firebase • MongoDB
IoT & Embedded	Arduino • Raspberry Pi • Teensy • ESP32 • STM32 • Sensor and actuator integration
Blockchain & DLT	Ethereum • Solidity • Hyperledger Fabric • Multichain • IPFS

REFERENCE

Tahsin Anam   Data Engineer at Konecranes (Finland) • Email: tahsin.anam@konecranes.com • Phone: +358 45 2563790