ALY KHAN NURUDDIN

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EDUCATION

The University of British Columbia - Vancouver, BC | BASc. in Biomedical Engineering and Minor in Commerce · May 2025
Specialization: Biomedical Systems & Signals
Scholarships: Outstanding International Scholar [$10,000], Vancouver Award [$5,000], Work Learn Research Awards [$10,000]
Courses: Biomedical Design, Healthcare Economics, Introductory Engineering Design, Macroeconomics, Microeconomics

TECHNICAL SKILLS

Entrepreneurship: Business Analytics (Access, PowerBI)| Equity Financing (Venture Roadmap) | Marketing (PESTLE, SWOT) |
Market Sizing (Petal, Whitespace Diagrams) | Needs Assessment (Value Proposition) | Stakeholder Mapping (Ansoff Matrix)
Engineering: Circuit Schematics (Fritzing, MultiSim) | Data Management (Excel, SPSS) | Embedded Systems (Raspberry Pi,
Arduino) | Programming (C, Java, Python, R) | Rapid Prototyping (AutoCAD, SolidWorks) | Signal Processing (LTSpice, MATLAB)

WORK EXPERIENCE

Research Assistant, Artificial Intelligence in Medicine Lab | BC Cancer Agency - Vancouver, Canada · May 2024 to Current

Research Assistant, Cognitive Neuroscience of Schizophrenia Lab | BCCHR - Vancouver, Canada · May 2023 to Aug. 2023
   Baseline To Peak (BTP) Analysis
   • Performed an Analysis of Variance (ANOVA) test for 3 task-based frameworks noted in the Sanford PhD Dissertation (2019)
   Constrained Principal Component (CPCA) Analysis
   • Conducted a multivariate multiple regression analysis on the standardized Z matrix for the Lavigne et al. Publication (2016)

DESIGN TEAMS

Embedded Systems Engineer, UBC Bionics Engineering Student Team - Vancouver, Canada · Jul. 2022 to Sept. 2022
   • Implemented the core electrical framework to interface electromyogram signals for the smart prosthetic arm technology
   • Optimized rotational kinematics by implementing multithreaded feedback loops via the Raspberry Pi integrated circuit in C

Electrical Engineer, UBC Biomedical Engineering Student Team - Vancouver, Canada · Sept. 2021 to Apr. 2022
   • Integrated sensors, motors and actuators to synergize the compound motion of the poncho-wearing assistive device
   • Enhanced client mobility through voice activation by syncing the Arduino microcontroller with Blynk IoT using Node.js

PROJECTS

Biomedical Ventures: Pitching a Commercialization Plan for an Orthopedic Knee Mobility Device · Jan. 2023 to Apr. 2023
   • Computed a Serviceable Obtainable Market of 1.4-1.7B USD from a Total Addressable Market of 11.5B USD for mobility aids
   • Mapped out the distribution channels using a Customer Decision Network, opting for direct supply to healthcare providers
   • Determined a suitable competitive regulatory strategy for FDA approval under the de novo 510(k) medical device category

Business Analysis: Evaluating Toyota Motor & Panasonic's Joint Venture for Lithium Batteries · Mar. 2020 to Apr. 2020
   • Conducted a stakeholder analysis, identifying relevant groups with varying interest and influence in the strategic coalition
   • Examined the external growth potential and viability of the electric vehicle commercial market via the STEEPLE framework
   • Plotted the Ansoff matrix, outlining an elaborate product development strategy to ensure successful market penetration

HACKATHONS

UBC Designathon, The University of British Columbia - Vancouver, Canada · Feb. 2022
Obtained 'Third-Place Standing' for modelling an ergonomic footwear accessory on SolidWorks to lessen stress while walking

StormHacks Hackathon, Simon Fraser University - Burnaby, Canada · Feb. 2021
Awarded 'Best Augmented Reality Project' for creating a virtual 'marketplace' for sales management in EchoAR with Python

EMPLOYMENT

Residence Advisor, UBC Student Housing & Community Services - Vancouver, Canada · Sept. 2021 to Aug. 2022
Engaged in community events, conflict mediation and crisis management to foster wellness, respect and inclusivity in residence

VOLUNTEERING

Program Host, Multidisciplinary Undergraduate Research Conference - Vancouver, Canada · Feb. 2021 to Mar. 2021
Facilitated attendee logistics, coordinated adjudication and moderated panel discussions for smooth running of the symposium