BIMSARA GUNAWARDANA

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in Bimsara Gunawardana   ⌂ bimsara0608   ⎘ Portfolio

SUMMARY

An undergraduate specializing in Instrumentation and Automation Technology with 5+ years of experience in 3D design, printing. Proficient in SolidWorks, FPGA, PLC and PCB designing, with growing expertise in robotics and embedded systems. Led the award winning Smart Mailbox project (Sahasak Nimavum 2023 Silver Award) and contributed as a volunteer to the Taprobane 4.0 Mars Rover project.

EDUCATION

University of Colombo   **Jun. 2022 – Present**
Bachelor of Engineering Technology Honours in Instrumentation and Automation (UG)

Relevant Coursework

Embedded Systems	3D Modeling and CAD	Algorithms	Micro-controllers
Robotics	FPGA	Computer Architecture	PLC programming

Sri Lanka Institute of Robotics (SLIR)   **Nov. 2022 – Apr. 2023**
PLC Programming (Completed)

Nalanda College Colombo   **Mar 2020 - Jan 2021**

G.C.E Advanced Level - Technology stream - 4A passes with a Z - score of 2.6405

G.C.E Ordinary Level - 8A passes and 1B pass (including A in English and Mathematics)

EXPERIENCE

Students for the Exploration & Development of Space Sri Lanka (SEDS)   **Sep. 2023 – Nov. 2024**
Contributed to the Taprobane 4.0 Mars rover project by focusing on the development of the manipulator arm, participating in kinematic calculations, and designing arm joints as part of a multidisciplinary team.

VirtualPensar Pvt Ltd   **Jun. 2022 – Jul. 2024**
Delivered over 60 projects as a designer, including 3D-printable designs, prototype models, and 3D animations.

Lautus Robotics   **Aug. 2021 – Feb. 2022**
Contributed to the development and implementation of an autonomous guided vehicle, with the design and manufacturing efforts while gaining valuable hands-on experience in autonomous systems.

PUBLICATIONS

Development of a Parallel Arm Robot for Seed Handling Applications in Agriculture
U.V.H. Sameera, P.K.T. Akmal, W.G.K.S. Buddhika, B.M.K.S.T. Chandra, **G.G.B.S. Gunawardana**, A.V.W. Jayawardana, U.S. Mutugala
Presented at the Annual Research Symposium 2024, University of Colombo, Sri Lanka, p. 352.

PROJECTS

Smart Mailbox – Sahasak Nimavum 2023 Silver Award │ Leadership, Teamwork   **Sep. 2023**

Led a team to develop an award-winning smart mailbox system, providing real-time notifications and secure parcel management.

3D Printing and Design Marketplace Platform (Ongoing) │ Project Management   **Nov. 2024**

Leading the development of an real-time 3D printing platform that enables automated pricing for models 3D prints and an integrated marketplace for hiring professional designers.

Smart Agriculture Monitoring and Control System │ Curiosity   **Nov. 2024**

Designed a data acquisition system with a web interface featuring real-time graphs, data logging, scheduled irrigation, and time scheduling for precise water management.

Automated Runway Cleaning Rover – Lautus Robotics │ Problem-solving, Teamwork   **Feb. 2022**

Contributed to the initial phase of developing an autonomous guided vehicle aimed at cleaning airport runways, focusing on foundational design and prototyping.

Micro-controller-Based Temperature Monitoring System │ Leadership, Conflict Resolution   **Jul. 2024**

Led the development of a temperature monitoring system with ATmega328P.

CPU Design and Simulation │ Curiosity   **Feb. 2024**

Designed and simulated a CPU with an ALU and 64-byte RAM, applying skills in digital electronics and computer architecture

TECHNICAL SKILLS

Languages: Python, C, HTML/CSS, JavaScript, PHP, VHDL, MATLAB, Ladder Logic, SQL

Developer Tools: VS Code, EasyEDA, Altera quartus ii, Git, Atmel Studio

Technologies/Frameworks: React, Arduino, ESP32, Raspberry Pi, AWS

3D Design/Simulation: SolidWorks, AutoCAD, Autodesk Inventor Pro, Blender, ORCAD, Logisim

LEADERSHIP & EXTRACURRICULAR ACTIVITIES

Volunteer
Member of SEDS UoC (University of Colombo Branch of SEDS Sri Lanka)
Member of the Web development team - Arduino day 2025
Vice president - Nalanda College Aeronautical Society

Activities
Member of University Swim Squad
Achieved 1st runners-up position in both the Freshers' Championship and Inter-Faculty Badminton Championships.

REFERENCES

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