Rohit Bhusal

Kapilvastu - 7, 32801, Nepal
rohittbhusal@gmail.com • rohittbhusal.github.io
(+977) 9847027176

Summary

With genuine enthusiasm, I am Rohit Bhusal, an Electrical and Electronics Engineering graduate from Kathmandu University. I am currently finding my way as a Digital Twin developer in the IT Engineering Department of Smart Scape Inc., a prominent Japanese company. Starting with a bit of hard work and a stroke of luck in the selection process, I found myself contributing earnestly during my internship at Smart Scape Inc., which happily extended into continued employment. Additionally, I had the privilege of undergoing a transformative academic internship at the Press Council Nepal. I took on responsibilities beyond my comfort zone and learned immensely in meetings with the Department of Information Technology, Government of Nepal. My skill set includes game development, programming, formal and proposal writing, formal presentations, and more in the skill section. Driven by a heartfelt passion for Electronics and Communication Engineering, specifically in Radar Technology, I am eager to delve into a Ph.D. program. My interests lie in exploring innovative realms of radar engineering, wireless communication, antenna design, and signal processing. With a sincere desire to learn, I aspire to contribute to the field through dedicated research and development, drawing on my solid academic foundation and practical industry experience.

Education

2018 – 2023 – Kathmandu University Electrical and Electronics Engineering, Dhulikhel, Nepal

Bachelors of Electrical and Electronics Engineering (Specializing in Electronics and Communication Engineering).

CGPA: 3.39/4 (78.65%)

Coursework: Object Oriented Programming with lab works, Analog and Digital Electronics with lab works, Analog and Digital Signal Processing with lab works, Computer Architecture & Organization, Microprocessor and Measurement & Instrumentation with lab works, Antenna and Propagation with lab works, Neural Network and Fuzzy Logic with mini-project, Communication Engineering I & II with lab works, Wireless Communication, Satellite Communication and Broadcasting, and Engineering Project I, II, III, and IV and more on courses section.

2015 – 2017 – Kalika Secondary School, Butwal, Nepal

Secondary Education, National Examinations Board (NEB). (Science)

Percentage: 74.20%

Coursework: Physics I & II, Chemistry I & II, Mathematics, Computer Science, English

2003 – 2015 – Bhupu Sainik School, Banganga, Nepal

Secondary Education, School Leaving Certification (SLC)

Experience

Fall 2023 – Smart Scape Inc., Tokyo, Japan

Two-month Internship, Digital Twin Development Section, IT Engineering Department (Online)

- Learned Unity Programming, C#, 2D, and 3D game development.
- Learned Digital Twin Development
- Learned HTML, CSS, JS, Node-JS, Azure Cloud, Nginx, and Apache Server.
- Learned photogrammetry, and Reality Capture.
- Studied about the integration of Digital Twin Environment, and IoT for smart home/ cities.
- Other: Japanese Language, formal presentation, and report writing.

Current – Smart Scape Inc., Tokyo, Japan

Awarded with the opportunity based on the final presentation of internship on October 31, 2023, for the part time employment from November 1, 2023, to March 31, 2023.

Commencement in Tokyo branch on April 1, 2023

- Study Polygonica software, IoT, Digital Twin integration, Web Development, and Image Processing.

Winter 2023 – Press Council Nepal, Government of Nepal Kathmandu (GoN), Nepal

Three-month Industrial Internship, technical support engineer

- Conducted routine check and maintenance of Microsoft Server 2012 R2
- Studied the internal network, cisco switches and routers, and troubleshooted the network issues.
- Took part in meetings with the Department of Information Technology, GoN to further improve the system, to buy the firewall and virtual server from another body of the government.
- Studied the security audit report of proposed updated system and took part in correcting the bugs.
- Others: Computer Installations, and power source maintenance.

Spring 2022 – Project Lead – Orion Space, Bhaktapur

- Ground Station building for cube satellites.
- Software Defined Radio
- Antenna Design, testing, and Deployment.
- Real Time Operating System Setup and Deployment.
- Other: Sat nogs setup, Planning.

Summer 2022 – Raspberry Pi Instructor – Society of Electrical and Electronic Engineer (SEEE), Kathmandu University

2 Days Raspberry Pi training to Undergraduate students of all levels at Kathmandu University

- Raspberry Pi setup and remote access
- Web server installation and setup
- Other: Use of GPIO, Server, and create mini project.

Fall 2022 – Technical Event Head – Society of Electrical and Electronic Engineer (SEEE), Kathmandu University

Handling technology-related events like Hackathon, Online Circuit Competition, and Electronic Training Workshops.

- Event Management and Supervision
- Workshop trainer
- Other: Event Planning, technical support.

2018 – 2023 – General Member – Kathmandu University Robotics Club

Leading and Handling projects.

- Study, design, and testing of radio telescope.
- Remote control car design
- Other: Project Supervisions.

2017 – 2018 – Pravat Computer Institute, Kapilvastu, Nepal

Teaching and Training Secondary and High School Students

- Taught Physics, Chemistry, Math, and English
- Taught Basic Computer, HTML, CSS, JS, C, C++, and Java
- Taught Adobe Photoshop, Adobe Premier Pro, Adobe Illustrator, and Microsoft Office Suite.
- Volunteered to help Bachelor in Business Studies student with Business Mathematics and Calculus.
- Other: administrative tasks, and public relation.

Projects

Fall 2023 – Web Site Development (https://rohittbhusal.github.io)

- Website designed to present at the final presentation during my internship at SmartScape Inc. (Japanese Company – Remote). The overall website is hosted on GitHub and the games present on the website are designed using unity which is hosted on azure server. The games are not accessible as the server ran out of the credit.

2022 – 2023 - Image Transfer using Slow Scan Digital Video (SSDV) Protocol – Fourth Year Academic Project, Kathmandu University

- Designed and Build a Slow Scan Digital Video (SSDV) based system to transfer the images from Low Earth Orbit (LEO) using nanosatellites to Earth's ground station. The study was focused on the implementation and testing of the system for image transfer in a very small Line of Sight (LOS) time available with a satellite in orbit.

2020 – 2022 – IOT based Home Appliances Monitoring and Management System – Third Year Academic Project, Kathmandu University

- Designed a fully functioning IOT-based Home Appliances Monitoring and Management System. The system consists of Raspberry Pi and other electronic components to fulfill the project objectives. The design has Internet and Intranet modes which change automatically depending on the availability of the internet connection. Data related to appliances were stored on My SQL server in local and remote databases (Azure).

2019 – 2022 - Intercommunication System – Second Year Academic Project, Kathmandu University

- Designed five nodes with central control Intercommunication System to facilitate voice communication between the nodes. The connection between the nodes is made only when the nodes are accessible. The working prototype was made without using any microprocessor/ microcontroller but with the ICs like multiplexers, demultiplexers, flip flops, gates, counters, level shifters, etc. The overall working prototype was achieved on a breadboard. While designing the prototype, one of the complex parts was dealing with the timing signal, but we acquired it in the lab using a 555 timer IC and counters.

Spring 2019 - Battery Level Indicator – First Year Academic Project, Kathmandu University

- Prototype design of battery level indicator which indicates the battery percentage at 5 different levels.

Skills

Programming

C++ / C / C#/ Embedded C/ Python / Java / Managing Databases (MySQL) / Linux (OS)/ Unity (Game Development)/ Image Processing

Electronics & Simulation

PCB design (Eagle - KiCAD) / LT - Spice / Opti system / GNU Radio / Cisco - Packet tracer / Remote Support Tools / Proteus/Multisim / Raspberry Pi / MATLAB/Simulink / Wireshark / GNS3 / Arduino / NS2 Simulator

Presentation & Writing

Public-Speaking / Microsoft Azure, Microsoft 365 / Presentation Techniques and Teamwork / Academic and Technical Writing

---

Relevant Courses **– Undergraduate – Kathmandu University**

Object Oriented Programming [COMP-116]/ Digital Logic [EEEG 202]/ Computer Organization and Architecture [COMP 201]/ Microprocessor [EEEG 314]/ Analog and Digital Signal Processing [EEEG 313/ 305]/ Communication System Engineering [ETEG 320]/ Data Communication Networks [ETEG 303]/ Antenna and Propagation [ETEG 402]/ Optical Fiber Communications [ETEG 422]/ Neural Network and Fuzzy Logic [ETEG 425]/ Satellite Communication and Broadcasting [ETEG 427]/ Wireless Communications [ETEG 432], Engineering Projects I, II, III & IV.

Recommendations

Head of Department – Kathmandu University

Name: Ram Kaji Budhathoki, PhD

Phone: (+977) 9851183818

Email: ram.budhathoki@ku.edu.np

Professor – Kathmandu University

Name: Bhupendra Bimal Chhetri, PhD

Phone: (+977) 9841301829

Email: bhupendra.chhetri@ku.edu.np

Assistant Professor – Kathmandu University

Name: Anup Thapa, PhD

Phone: (+977) 9851116884

Email: anup.thapa@ku.edu.np

Languages

[Nepali – Native] **[English – Proficient]** **[Hindi – Understandable]** **[Japanese – Beginner]**
