Manish Acharya

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EDUCATION

- **St. Xavier's College** — Maitighar, Kathmandu
  School Leaving Certificate; Grade 11-12; GPA: 3.85/4.0 (A+) — *July 2019 - December 2021*
  Courses: *Physics, Mathematics, Chemistry, English, Nepali, Biology*

- **REHDON Secondary School** — Samakhusi, Kathmandu
  Secondary Education Examination; Grade 9-10; GPA: 3.85/4.0 (A+) — *April 2017 - June 2019*

SKILLS SUMMARY

- **Languages**: Java, C, C++, Python, JavaScript, Dart
- **Frameworks**: Spring, Flutter, Django, React
- **Tools/Platforms**: GIT, PostgreSQL, MySQL, Linux, Web, Windows, Arduino, Android, IOS
- **Soft Skills**: Leadership, Teamwork, Time Management, Communication, Problem-solving, Event Management

WORK EXPERIENCE

- **Project Consultant/Developer** — Physical
  Gurzu Inc. (Part-time) — *August 2022 - Present*
  - **Medical Software**: Working in a team of 5 software developers to develop medical software capable of detecting breast cancer with higher accuracy
  - **Medical Imaging**: Learning the essential concepts of medical imaging, radiology, and image processing in C
  - **Maintenance**: Fixing the error in the existing code and designing an algorithm to detect different types of cancers
  - **Assistance**: Helping to create documentation of the project and code for future reference

- **Software Developer** — Physical
  Digital Nepal (Full-time) — *December 2021 - July 2022*
  - **School Management System**: Led a team of 4 Software Developers and 4 designers to build a School Management System with the idea to digitize the educational ecosystem of Nepal. The software now is adopted by 150+ schools/colleges
  - **Mobile Application**: Engineered and maintained major features of the Digital Nepal mobile Apps
  - **Assistance**: Assisted Junior Developers and Interns to design the Examination Management Module
  - **Associated Honors**: Awarded Startup ICT Award by National ICT Committee and Smart Urban Technology by National Government

- **Web Developer** — Remote/Physical
  Mokshya Tech. and IT Solutions (Part-time, Contractual) — *July 2020 - August 2021*
  - **Internship**: Worked as an intern for the first 4 months under different projects and learned new tools/technologies. Later on, promoted an Employee
  - **Digital GITA**: Assisted in developing the EATGITA website: the online version of the religious book GITA. The website aimed on providing lessons and teachings of GITA in interactive ways
  - **Staff Management System**: Led a team of 5 web developers to build a complete Staff Management System

RESEARCH EXPERIENCE

- **Computer Science Researcher/ App Developer Lead** — Physical
  Incubate Nepal — *July 2022 - September 2022*
  - **Research Survey**: Prepared fact sheets, tables and graphs to summarize research results of 10+ research papers on signal processing and breathing rate monitoring
  - **Data Collection**: Collected data across 10+ individuals under different breathing states and environment. Used the collected data to calculate the mean error rate of the app.
  - **Algorithm & App Development**: Designed an algorithm to analyze the breathing pattern and infer breathing count using Fourier Transform. Led the development of the mobile application to monitor the breathing rate with 3 team members
  - **Report Preparation**: Authored a research paper with 3 other researchers under the mentor-ship of Mr. Shardul Sapkota - a Yale-NUS Graduate.
  - **Associated Honor**: Selected in the team of 4 researchers among 800+ applicants nationwide

- **Computer Science Researcher/ Web Developer Lead** — Physical
  Student Research Council Nepal - SRCN — *April 2021 - June 2021*
  - **Paper Assessments**: Reviewed 20+ scholarly articles on the topic of public transportation and digitization in Nepal
  - **Data Collection**: Visited National Library and Ministry of Physical Infrastructure and Transport to collect data regarding public vehicles and their routes
  - **Web Development**: Developed a web application with other 3 student researchers to provide information about different transportation routes inside the Kathmandu
  - **Presentation**: Shared our research review and web application with distinguished guests from all around the world in the final project showcase of the national council
  - **Associated Honor**: Selected in the national team of 3 researchers among 350+ applicants

Leadership And Volunteer Experience

- **Country Ambassador for Nepal** — New York, USA
  STEM Global Network — *June 2022 - Present*
  - **Surveying**: Surveying and researching the status of STEM Education in underdeveloped and developing nations worldwide
  - **Sessions and Boot camps**: Reached 1000+ academically underprivileged students by organizing 30+ sessions on STEM Education. Conducted Boot Camps to train people across rural areas
  - **Fund Raising**: Distributed laptops, computers, and STEM resources to economically disadvantaged areas by raising funds worth $5,000
  - **Policy Making**: Brainstorming policies to advocate for cheaper and more accessible technology and STEM education. Aspiring to make STEM education accessible globally to inspire future innovators

- **Founder and President** — Kathmandu, Nepal
  RajGyan — *September 2021 - Present*
  - **Initiation**: Founded an organization with 15 members to educate girls about menstrual health and remove societal stigmas associated with menstruation in Nepal.
  - **Session and Workshops**: Organized 20+ sessions and workshops on menstrual hygiene and green menstruation. Conducting workshops to train people to make cheaper and bio-degradable sanitary napkins at home
  - **RajGyan Mobile App**: Providing a secure platform for the discussion of queries and information surrounding menstruation via the RajGyan Mobile App
  - **RajGyan Instagram Page**: Posting awareness contents on RajGyan Instagram Page.

- **Olympiad Mentor and Assistant Co-ordinator** — Kathmandu, Nepal
  STEM Foundation Nepal — *Class Breaks*
  - **Organizer**: Coordinated with Olympiad Coordinator and other team members to conduct National selections for 8 Intl. Olympiads such as IJMO, IBO, ICHO, WRO, etc
  - **Mentor**: Mentored 1,500+ participants of different Intl. Science Olympiads
  - **Awareness**: Conducted online sessions to inform and educate students about Olympiads reaching 13 districts and 50+ schools of rural Nepal

- **President and Founder of House Classes** — Kathmandu, Nepal
  SXC Computer Club - St. Xavier's College — *July 2019 - October 2021*
  - **House Classes**: Initiated the concept of house classes providing computer classes to 600+ low-income and resourceful students
  - **Events**: Organized the National Tech event with 1,785 participants being the first club to organize the national event from college. Conducted competitions such as Computer Olympiad and Website Development Competition in the college
  - **Team Formation**: Recruited team members and selected the executive committee consisting of 10 members. Appointed House leaders to organize various house classes

Projects

- **RajGyan**: Developed a mobile application providing a safe space to share the problems and information related to menstruation. The app aims on fighting the stereotypes regarding menstruation in Nepal (Tech: Flutter, Firebase, Dart)
- **School Management System**: Developed a School Management System to conduct virtual classes and manage school tasks during the pandemic. Beneficiaries:150+ schools across Nepal (Tech: Java, Java Spring, HTML, CSS, JS)
- **Project SAAS**: Developed a mobile application capable of detecting the breathing rate of an individual using unmodified smartphones to address the increasing death due to respiratory tract infections. The app also provides a long-term tracking system and diagnosis reports (Tech: Flutter, Firebase, Flask, Python)
- **MySnake**: Built a mobile app to provide information about types of snakes found in Nepal along with features such as Report Snake Bite, Report Snake, and Report Poaching. The app hopes to aid snake bite management along with the preservation of snakes (Tech: Flutter, Dart, Firebase)
- **Path Pradashak**: Built a website to provide information about the bus routes, fares, and vehicles available at any given location within Kathmandu, Nepal. The app tries to solve problems and provide valid information regarding public transportation in Nepal (Tech: HTML, CSS, JavaScript, NodeJs)
- **Periodic Table**: Built a periodic table web application listing all the available elements in the universe with their detailed description (Tech: Python, Django, PostgreSQL, and JavaScript)
- **Resistance Calculator**: Built a Resistance Calculator app using Java. The project was initiated with the idea to simulate and help students understand the calculation of resistance in any resistor during my high school (Tech: Java)

Research Paper

- **Detection of Breathing Rate Using Unmodified Smartphones**: Researched MEMs and digital signal processing to study the possibility of estimating breathing rate efficiently using mobile phones. Devised an algorithm to detect the breathing pattern and count using Fourier Transform. Prepared a Research Paper at Incubate Nepal - a research program organized by MIT and Harvard Graduates.

Honors and Awards

- **Second Place Public Choice Adult Individual - MIT Appathon 2022**: Awarded second place for the mobile app "MySnake." The app was built under one of the Sustainable Development Goals (SDGs), "Life on Land," with an emphasis on snake bite management and snake protection and preservation

- **Global Nominee/Galactic Problem Solver - NASA Space App Challenge 2022**: At NASA Space App Challenge 2022, received a Global Nomination out of 692 participants. Researched the possibilities of several organisms to aid in space exploration; developed a website to display the information and ideas

- **Selected as a National Delegate for International Olympiad in Informatics 2022**: Selected as one of the National Delegate for the International Olympiad in Informatics (IOI), 2022 as a winner of the National Informatics Olympiad

- **Selected as a National Delegate for Genius Olympiad 2018**: Selected as one of the National Delegate for the Genius Olympiad (Robotics Category), 2018 as a winner of the National Robotics Olympiad

- **All Nepal Rank-1, National Informatics Olympiad**: Received First Place at National Informatics Olympiad attended by over 300 participants. Recognized as a Perfect Scorer

- **All Nepal Rank-1, National Robotics Olympiad**: Received First place in the National Robotics Olympiad, which had over 500 participants. Recognized as a Youngest Achiever, outperforming all junior and senior-level students

- **Versatility/Student of the Year Award - 2019/20**: Awarded Student of the Year (Versatility Award) out of 856 students as a valedictorian and winner of 20+ awards across different competitions and activities inside and outside the school

- **Winner of Regional Public Speaking Contest**: Awarded First Place among 450+ participants at Regional Public Speaking Contest; helped other 5 members from school secure a place at the event as a team leader

Courses And Certifications

- **FinTech: Foundations, Payments, and Regulations**   View Certificate
  University of Pennsylvania

- **Game Theory**   View Certificate
  Stanford University, The University of British Columbia

- **Java Programming: Solving Problems with Software (with Honors)**   View Certificate
  Duke University

- **Introduction to Mathematical Thinking**   View Certificate
  Stanford University

- **Data Structures and Performance**   View Certificate
  University of California San Diego