Anup Adhikari

Senior Web Developer

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Work Experience

Maharudra Group Private Limited   Kathmandu, Nepal

Team Leader   *2019 - Present*

– Conduct cyber-attack simulations as part of the RED team activity

– Conduct Vulnerability Assessment and Penetration Testing and configuration review for network, web application , mobile application and thick -client application

– Conduct configuration reviews for OS , DB, Firewall, routers, Switches and other security devices/components

– Perform manual testing of web applications

– Conduct source-code review using automated and manual approaches

– Prepare detailed reports

– Ensure timely delivery of status updates and final reports to clients

– Handle Clients queries

Simle Infotech Private Limited   Kathmandu, Nepal

Senior Developer   *2017 - 2019*

– Helping lead a world class team to eliminate expensive trial and error from every experts workflow. Using cutting edge optimization behind a simple API to help tune machine learning models and build better products in a variety of fields.

– Developed a Portal system of Kushma Municipality in Django-Python with MongoDB for storing all the household details and local government activities. Deployed in GIDC cloud architecture and enriched a national level software in E-Governance.

Department of Electronics and Computer Engineering, IOE   Lalitpur, Nepal

Instructor   *2018*

– Teaching Assistant

– *Taught Subjects:* C-programming, Electromagnetics and Digital Signal Processing (6 months)

Ubiquotous Based Learning -Research & Development   NSDeVil-Nepal, Lalitpur

Senior Developer   *July 2018-July 2019*

– Manage different project developments for Nepal.

– Coordinate with various team members and developers on software development inside the office.

– Developed NSD-Examination Result Processing System using openpyxl-python for Ubiquotous Based Examination System.

– Developed Language translator using openpyxl-python for preexisting codes

– Designed Learning Management System using Node.js and python

Laboratory for ICT Research and Development   Research Assistant

IOE, Pulchowk   *2018*

– Committee: Associate Prof. Sanjeeb Pandey PhD., Prof. Shashidhar Ram Joshi PhD., Baburam Dawadi, Dr. Aman Shakya

– Assist in research works of PhD. students.

– Develop system softwares for research labs in python

- Network Management and Examination Managements inside the ICTC premises.

Office of District Development Committee Parbat   Kushma, Parbat, Nepal
ICT Engineer   2014-2017

- **IT Engineer:**
  - ∗ Organized trainings in software based knowledge. Taught the local government officials on e-governance tools and softwares, accounting systems and other MIS systems.
  - ∗ Coordinate with Local Development Officer, District Engineer, Information Officer, Governance Expert and other Development Officers.
  - ∗ ICT Survey on requirement of IT infrastructure in various regions of Parbat district.
- **System Development:** Developed local infrastructure database system, online GIS web application for Bridge Network. Designed the LAN network architecture of Office of District Development Committee Parbat, now Office of District Coordination Committee Parbat.

Everest Engineering College   Lalitpur, Nepal
Project Supervisor and Python Tutor   July 2019 - Sept 2019

- **Project Supervisor:** Co-developed and led team for RT-vehicle detection: Using Yolo, the team developed a real time vehicle detection system to count the no. of persons and vehicles moving in college streets.
- **Python Tutor:** Taught the final year students about the hands-on knowledge in python programming.

Academic Qualification

- **Tribhuwan University, Institute of Engineering, Pulchowk Campus**   Lalitpur, Nepal
  M.Sc. in Computer Science and Knowledge Engineering   2017-2020

  - Graduated in First Division with Distinction
  - Department of Electronics and Computer Engineering (Full Scholarship)
  - Thesis - Prediction of Protein Drug Interaction from their Sequence: Using SMILES and FASTA, Coordinator: Dr. Aman Shakya, Supervisor: Associate Prof. Dr. Surendra Shrestha
  - **Majors:** Computer System, Cloud Computing, Knowledge Engineering, Image Processing, Operation Research, Algorithmic Mathematics, Big Data, Object Oriented Database Management System, Machine Learning, Semantic Web Technology

- **Paschimanchal Campus**   Pokhara, Kaski
  Bachelors in Electronics and Communication Engineering   2009 - 2013

  - Graduated in First Division
  - Majors in Database System, Aeronautical Communication and Remote Sensing
  - Major subjects: Digital Signal Processing, Electronic Devices, Computer System Architecture, C++ Programming, Digital Logic
  - Strong emphasis on programming, numerical analysis and embedded system Designs
  - Minor Project in LED Array Display using 8051 Microcontroller
  - Major Project in Voice Controlled Home Automation using Arduino

- **Sagarmatha Higher Secondary School**   Nayabazar, Pokhara, Nepal
  +2 Science   2007-2009

  - Major in Mathematics

- **SOS Hermann Gmeiner School Gandaki**   Rambazar, Pokhara, Nepal
  Upto 10 (SLC)   *2000-2007*
    - Majors in Computer Science

Research Experience

- **Laboratory for ICT Research and Development, IOE**   Pulchowk, Lalitpur, Nepal
  Research Assistant under Er. Baburam Dawadi   *2018 October to July 2019*
    - Transformations to Future Networking with Broadband and IoT Implementations (`TraFNet`)
    - Study the current trend of networking technologies migrations including broadband deployment and the IoT implementation for future smart life
    - Find the position of Nepal regarding Broadband deployment, SDN/IPv6 migration & IoT implementation.
    - Analyze the future network transformation challenges and recommend the solution for Nepal

- **Prediction of Protein Drug Interaction from Sequence**   Thesis - IOE, Nepal
  With Devi Basnet Phd., Senior Research Scientist, South Korea November 2018 - November 2019
    - Wrote **open source** machine learning tool in `python` for protein sequence and drug sequence analysis. The FASTA model of protein and SMILES model of drug were analysed for predicting their behaviour. Other feature representations were employed to build a proper feature matrix for prediction.
    - Used ConvNet models to discover sequence alignments and predict a preferable drug-protein set.

- **DataGenerator for DNCON2**   UMSL, USA
  Assistant Programmer under Badri Adhikari duing CASP event   *2017-2018*
    - Developed a DataGenerator for machine learning experiment of protein fold prediction DNCON2 during the famous CASP competition.

Publications

1. Anup Adhikari, *PREDICTION OF PROTEIN DRUG INTERACTION FROM THEIR SEQUENCE: USING SMILES AND FASTA.* Masters Thesis in Computer Science and Knowledge Engineering, Tribhuwan University, November 2019.

2. Anup Adhikari, Anish Karki, Bigyan Pandit, and Prabin Shrestha *Speech Operated System for Home Appliances B.Eng. Major Project*

3. Editorial Board *ENSCITECH magazine*

Skills

- **Numerical Analysis and Computer Science:** Machine Learning, Data Mining, Optimization, Computational Science, Artificial Intelligence, Linear Algebra, ODEs, PDEs, Iterative Methods

- **Public Speaking:** I've given presentations during my tenure in DDC-Parbat to the general public audience.

- **Development:** Python (preferred), C/C++, Java, HTML, JavaScript, LaTeX

- **Technology:** Numerical libraries, Web frameworks, databases, Linux, git, vim, tmux

- Diverse background in Math, Computer Science, Physics and Biology allows me to communicate to a wide scientific and general audience and begin contributing to any group immediately.

Awards

Under-Graduate Scholarship Award (NRs. 160,000) 2010
Graduate Scholarship Award (NRs.100,000)   2017
Best Local Development Software Award for Kushma Portal System 2018

References

Associate Professor Sanjeeb Prasad Panday PhD.

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Associate Professor Surendra Shrestha PhD.

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Mr. Shiva Prasad Rijal

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