Devashish Chaudhary

s224281473@deakin.edu.au

github.com/devashish-web
linkedin.com/in/devdhr
+61-0405909752

Highly motivated and solution-oriented Computer Science graduate with expertise in cyber security, web development, and machine learning. Enthusiastic learner seeking projects to gain hands-on experience and master skills. Adept at motivating self and fostering teamwork.

Skills

Technical: PHP, Python, Java, Latex, Node.js, MySQL, Machine Learning, Cyber Security, IoT, HTML, CSS, JavaScript, Angular, Qiskit.
Soft Skills: Critical and Analytical Thinking, Logical and Abstract Reasoning, Problem Solving, Project Management.
Web Services: Microsoft Azure, XAMPP.

Education

Deakin University Burwood, Melbourne, Australia
PhD (2^{nd} year)- Faculty of Built Science, Engineering and Environment November 2024–Present

- **Focus**: Federated and Graph-Based Learning for Intrusion Detection

Vellore Institute of Technology Vellore, Tamil Nadu, India
B.Tech. Computer Science and Engineering - 8.31/10.00 September 2020–May 2024

- **Coursework**: Artificial Intelligence, Machine Learning, Calculus for Engineers, Statistics, Data Structures and Algorithms, Operating Systems, Database Management System, Computer Architecture and Organization, Social Information Networks, Natural Language Processing, Web Security, Cyber Security, Internet of Things, Principles of Cloud Computing, Software Engineering, Information Security Analysis and Audit, Information Security Management

Modern Indian School Kathmandu, Nepal
Grade 12 - 95% 2018–2020

- **Coursework**: Physics, Chemistry, Mathematics, English, Computer Science

Experience

SecurityPal — Associate Security Research Analyst Kathmandu, Nepal; On-Site — September 2024–October 2024

- Responded to diverse security questionnaires from clients, ensuring accurate and timely completion to support compliance and client trust.
- Conducted thorough risk assessments to identify potential security vulnerabilities in client systems and processes.
- Collaborated with cross-functional teams, including engineering and product development, to address security concerns and implement best practices.
- Engaged in ongoing professional development through training sessions and courses, enhancing skills in cyber security, risk management, and communication.
- Led initiatives to update and enhance the security knowledge library, ensuring it reflects current best practices and industry standards.

Deakin University — Research Student Melbourne, Australia; On-Site — January 2024–June 2024

- The topic of research was "Network Attack Detection with Deep Learning on Federated IoT Devices".
- Implemented a real IoT network using Raspberry Pi 3B+ nodes with XBee S2C Zigbee modules in a hierarchical topology.
- Configured one node as an attacker to simulate various attack scenarios and recorded network traffic logs for normal and attack behaviors.
- Extracted features from log data to train a deep learning model for anomaly detection.
- Employed federated learning, where edge devices trained local models and transmitted model weights to a coordinator for aggregation using the FedAvg technique, enhancing data privacy and resource efficiency.
- Utilized transfer learning to optimize training efficiency on resource-constrained edge devices.
- Evaluated the performance of centralized and federated learning approaches, demonstrating that the federated approach achieved metrics (accuracy, precision, recall, and F1 score) nearly identical to the centralized method.

Rochester Institute of Technology — CyberVSR (Visiting Research Student) New York, USA; Remote — May 2023–July 2023

- In this program, I worked on "Network Threat Detection and Triage with Visual Analytics," developing innovative solutions to enhance cyber threat detection and response through the integration of visual analytics techniques.

IMS Software Pvt. Ltd. — Angular Intern Nepal; On-Site — July 2023–August 2023

- Assisted in the development and enhancement of POS (Point of Sale) system features using Angular framework.
- Collaborated with senior developers to design and implement user-friendly interfaces, improving overall customer experience.

HiTech Solutions and Services Pvt. Ltd. — Web Development Intern Nepal; On-Site — May 2022–July 2022

- Contributed to the design and development of responsive web applications, enhancing user experience across various devices and platforms.
- Assisted in the creation and maintenance of websites using HTML, CSS, JavaScript, and modern web development frameworks.
- Collaborated with the development team to implement new features and optimize existing functionalities for better performance.
- Conducted thorough testing and debugging to ensure the stability and security of web applications.

Publications

- **Modeling Quantum Federated Autoencoder for Anomaly Detection in IoT Networks (Accepted in International Conference on Information Networking 2026)**
  Authors: Devashish Chaudhary, Sutharshan Rajasegarar, Shiva Raj Pokhrel
- **In-network Attack Detection and Federated Deep Learning in IoT: Real Implementation and Analysis (Accepted in IEEE Conference on Engineering Informatics 2025)**
  Authors: Devashish Chaudhary, Sutharshan Rajasegarar, Lei Pan, Ruby D
- **Modeling Graph-Based Intrusion Detection with Kolmogorov-Arnold Networks (Submitted – IEEE Transactions on Artificial Intelligence)**
  Authors: Devashish Chaudhary, Sutharshan Rajasegarar, Shiva Raj Pokhrel
- **E-GATKAN: Edge-Aware Graph Attention Kolmogorov-Arnold Network for Intrusion Detection (To be submitted – IEEE Transactions on Information Forensics and Security)**
  Authors: Devashish Chaudhary, Sutharshan Rajasegarar, Shiva Raj Pokhrel
- **Towards Adapting Federated & Quantum Machine Learning for Network Intrusion Detection: A Survey (To be submitted)**
  Authors: Devashish Chaudhary, Sutharshan Rajasegarar, Shiva Raj Pokhrel

Academic Projects

- **Obstacle Avoiding Vehicle**: Developed an obstacle-avoiding vehicle as part of the Microprocessor and Interfacing course, leveraging Arduino and ultrasonic sensors for autonomous navigation. Demonstrated proficiency in embedded systems and microcontroller programming, enhancing practical skills in real-time sensor integration and algorithm development.
- **Sound Recognition System for People with Impaired Hearing**: Implemented a Sound Recognition System for People with Impaired Hearing using Convolutional Neural Networks (CNN) as an Artificial Intelligence project. Trained the model to classify environmental sounds crucial for accessibility, showcasing expertise in machine learning, neural network design, and Python programming with TensorFlow/Keras.
- **Intrusion Detection System using XGBoost**: Developed an Intrusion Detection System using the XGBoost algorithm for Cyber Security, aimed at detecting network intrusions and anomalies. Applied machine learning techniques to a dataset of network traffic data, demonstrating strong analytical skills and proficiency in cybersecurity principles, Python programming, and machine learning frameworks such as scikit-learn and XGBoost.

Awards and Certificates

- **Deakin University Postgraduate Research Scholarship** - Fully funded scholarship offered by the Deakin University, Melbourne for PhD degree.
- **COMPEX Scholarship Scheme, 2020** - Fully funded scholarship offered by the Embassy of India, Kathmandu for UG degree.
- **Study in India Scholarship, 2020** - Partial Tuition fee waiver for UG degree, obtained through online SII SAT exam.
- **School Topper, 2020** - Achieved a score of 95% (Second Highest) for Science group in grade 12.
- **National Donwhill Championship, 2019** - Secured 4th position in National Downhill Championship Nepal 2019.
- **Highest Achievers, 2018** - Achieved a score of 90.8% in grade 10.
- **Coursera Certifications** - Containerized Applications on AWS

Languages

- English
- Hindi
- Nepali