

# BISHAL LAKHA

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## EDUCATION

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<b>Boise State University</b> <i>PhD in Computer Science</i>	<b>May, 2025 (Expected)</b> <i>Boise, Idaho</i>
<b>Boise State University</b> <i>Master in Computer Science</i>	<b>May, 2023</b> <i>Boise, Idaho</i>
<b>Institute of Engineering, Tribhuvan University</b> <i>BE in Electronics and Communication Engineering</i>	<b>December, 2016</b> <i>Lalitpur, Nepal</i>

## EXPERIENCE

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<b>Computer Science Department, Boise State University</b> <i>Graduate Research Assistant</i>	<b>August 2021 – Present</b> <i>Boise, Idaho</i>
<ul style="list-style-type: none"><li>• Currently developing temporal GNN based algorithm to predict nation initiated cyber attacks using news-based historical international relations data.</li><li>• Used unsupervised GNNs and Transformer models to build novel anomaly detection algorithm for provenance data.</li><li>• Coordinated with GAs to move Security Onion to cloud using AWS services like EC2, S3, and VPC.</li></ul>	
<b>Rarecarat, Inc</b> <i>Remote Machine Learning Consultant</i>	<b>May 2020 – July 2021</b> <i>New York, USA</i>
<ul style="list-style-type: none"><li>• Delivered 4 regression models used to generate price score for diamonds in the Rarecarat platform.</li><li>• Assisted DevOps team to deploy and monitor the models using Flask and Docker.</li></ul>	
<b>Newrun Technology</b> <i>Machine Learning Engineer, Co-founder</i>	<b>June 2019 – August 2021</b> <i>Bhaktapur, Nepal</i>
<ul style="list-style-type: none"><li>• Lead computer vision team to develop sport analysis software called NeuroPadel for a company based in Spain.</li><li>• Guided a team to develop automatic speaker recognition and speech transcription app.</li><li>• Handled company's day-to-day operations and business meetings.</li></ul>	
<b>Paaila Technology</b> <i>Machine Learning Engineer</i>	<b>April 2017 – May 2019</b> <i>Lalitpur, Nepal</i>
<ul style="list-style-type: none"><li>• Utilized SNIPS to create chatbot system integrated in robots and messenger applications.</li><li>• Worked with face recognition and tracking algorithms and trained face spoof detection model.</li><li>• Coordinated in collecting and processing data for Nepali Speech Recognition Project. Trained DeepSpeech algorithm using the data.</li></ul>	
<b>Upwork</b> <i>Machine Learning Engineer</i>	<b>March 2017 – July 2021</b> <i>Remote</i>
<ul style="list-style-type: none"><li>• Top Rated Freelancer. Completed more than 40 projects with an average rating of 4.95/5</li><li>• Collaborated with teams (Recruit.net, Inavan India Technology, Innsightful and other) from across the globe to deliver different computer vision, NLP and time series prediction projects.</li></ul>	

## TECHNICAL SKILLS

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**Languages:** Python, SQL, C, Java, C++, R  
**ML Skills:** Graph Neural Network, Deep Learning, Computer Vision, NLP, LLMs  
**ML Tools :** Sklearn, XGboost, PyTorch, Tensorflow, Keras, Pytorch-Geometric, Deep Graph Library, NetworkX, OpenCV, Transformers, LangChain  
**MLOps :** MLFlow, Prefect, CI/CD(Github Action), Grafana, Docker  
**Developer Tools:** VS Code, Amazon Web Service, Google Cloud Platform, Digital Ocean  
**Technologies/Frameworks:** Linux, Git, Flask, FastAPI, Celery

## PUBLICATIONS

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**Lakha, Bishal**, Jason Duran, Edoardo Serra, Francesca Spezzano. 2023 **.Prediction of Future Nation-initiated Cyberattacks from News-based Political Event Graph** In 10th International Conference on Data Science and Advanced Analytics (DSAA 2023)

Pathak, Royal, **Bishal Lakha**, Rohan Raut, Steven Kim, Francesca Spezzano. 2023 **Unveiling Truth Amidst the Pandemic: Multimodal Detection of COVID-19 Unreliable News** In 5th Symposium on Multidisciplinary International Symposium on Disinformation in Open Online Media (MISDOOM 2023)

**Lakha, Bishal**, Kalyan Bhetwal, Nasir U. Eisty. 2023 **.Analysis of Software Engineering Practices in General Software and Machine Learning Startups** In 21st IEEE/ACIS International Conference on Software Engineering, Management, and Applications (SERA 2023)

**Lakha, Bishal**, Sara Lilly Mount, Edoardo Serra, and Alfredo Cuzzocrea. 2022. **“Anomaly Detection in Cybersecurity Events Through Graph Neural Network and Transformer Based Model: A Case Study with BETH Dataset.”** In 2022 IEEE International Conference on Big Data (Big Data), 5756–64.

## SCHOLARSHIPS/ AWARDS

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**Top Rated Freelancer:** Upwork,(2017-2021)

**FlipKarma Project Award:** Second Position awarded in FlipKarma Project Competition for a Role Playing Game called C-Man made using C++ and SDL

**IOE Scholarship:** Merit-based Scholarship to study BE, Electronics and Communication Engineering at IOE, Pulchowk Campus (2012-2016)

## LEADERSHIP / EXTRACURRICULAR

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**Vice President:** Boise State AI Club

**Vice President:** Boise State Competitive Coding Club

**Financial Officer:** Nepalese Student Association BSU

**Event Ambassador:** Deeplearning.ai, 2020

**Volunteer Junior ML Engineer:** Omdena, 2020

**Coursera Community Mentor:** Introduction to Complex Analysis, 2017,2018

**Editor:** Limelight, a Technical Student Journal (2016)