Saiman Dahal

Graduate Research Assistant, Washington State University

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saiman dahal saimandahal

Education

Ph.D. in Computer Science Jan 2024 – present
Washington State University

- GPA: 3.9/4.0
- **Research:** Combinatorial ML applications, High-performance architectures
- Adviser: Prof. Ananth Kalyanaraman

Pullman, WA, USA

B.E. in Computer Engineering 2017 – 2021
Tribhuvan University

- Percentage: 72%
- **Research:** AI/ML for time series analysis.

Kathmandu, Nepal

Research Interest

- Combinatorial machine learning applications.
- Model optimization and energy-efficient training.
- High-performance architectures for accelerating ML applications.

Publications

HpT: Hybrid Acceleration of Spatio-Temporal Attention Model Training on Heterogeneous Manycore Architectures Jan 2025

Saiman Dahal, Pratyush Dhingra, Krishu Thapa, Partha Pande, Ananth Kalyanaraman.
IEEE Transactions on Parallel and Distributed Systems (TPDS), Accepted, 2025.
Link: https://ieeexplore.ieee.org/abstract/document/10820024

Experience

Graduate Research Assistant *Jan 2024 – present*
School of Electrical Engineering and Computer Science
Washington State University, WA, USA

Job Area: ML applications, Optimized attention models, High performance architectures

Graduate Teaching Assistant *Jan 2024 – May 2024*
School of Electrical Engineering and Computer Science
Washington State University, WA, USA

Job Area: Data structure

Computer Engineer *Apr 2022 – Dec 2023*
Ministry of Urban Development
SinghaDurbar, Kathmandu, Nepal

Job Area: Data analysis, procurement analysis, content management

Software Developer and Project Supervisor *Jan 2022 - Dec 2023*
Contentio Lab
Kathmandu, Nepal

Job Area: Core Programming, Project Manager, Database

Junior Python Developer *Jan 2020 - Mar 2021*
Prayogshala Technologies
Dharan, Nepal

Job Area: Application development

Instructor *Jan 2019 – Jan 2020*
Hibiscus School
Dharan, Nepal

Job Area: Computer science

Projects

HpT: Hybrid Acceleration of Spatio-Temporal Attention Model Training on Heterogeneous Manycore Architectures *saiman/HpT*

- HpT, a new hybrid approach to accelerate the training of attention-based models for scientific applications.
- Programming language and tools used: Python, Pytorch, NeuroSIM, PEFT

StockCoder: Stock price prediction using Transformer architecture *saiman/StockCoder*

- Stock closing price prediction using self-attention.
- Programming language used: Python

Your Voice Your Website, Application of NLP in Web Applications.

- Use of Natural Language Processing to realize the voice command consisting HTML tags and attributes provided by user and process the command rendering a website.
- Programming language used: Python

Influencer Node Maximization (INM): Centrality-based influence maximization approach in a network *saiman/INM*

- Implementation of influential maximization algorithm in the Amazon product network to determine the influential products in the graph.
- Programming language used: Python

Technical Skills

Programming languages : Python, C, C++, SQL, PHP, JS, CSS, Liquid

Frameworks/ Libraries : PyTorch, Scikit-learn, Matplotlib, Tkinter

Tools/ Platforms : NeuroSIM, gem5, WordPress, Shopify, LEMP, GitHub

Specialized skills: Transformer architecture, Spatio-temporal analysis, Layer-wise neural network training

Professional Membership

Member: Institute of Electrical and Electronics Engineers, Inc. (IEEE) Member (2024 - present).

Secretary: Nepali Student Association, Pullman, WA, USA (Aug 2024 - present).

Secretary: Technical Student Association Nepal, Dharan, Nepal (Jan 2018 - Feb 2019).