

## RAMAN GHIMIRE

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### EDUCATION

**Master of Computer Science:** The State University of New York at Buffalo, GPA 4.0, Expected January 2023

**Bachelor of Mechanical Engineering:** Tribhuvan University, Nepal, August 2018

### SKILLS & TOOLS

**Languages:** C, C++, Python, JavaScript, TypeScript, SQL, Java, Solidity, HTML5, CSS3, PHP, Go

**Libraries:** React JS, Node JS, GraphQL, PyTorch, CUDA, OpenMP, MPI, Boost, Sockets, React-Native, MUI

**Tools:** Visual Studio, CMake, Bash, Git, Docker, AWS, Jupiter Notebook, Linux

### WORK EXPERIENCE

**University at Buffalo, Buffalo, NY, Teaching Assistant:** January 2022 – Current

- Grader and teaching assistant for Modern Network Concept (CSE 4/589).
- Mentored 200+ students for projects, <https://cse4589.github.io/pa1/> and <https://cse4589.github.io/pa2/>.

**Meta Platforms, Inc., Menlo Park, CA, Software Engineering Intern:** May 2022 – August 2022

- Developed an end-to-end framework for testing a next generation privacy tool for Meta Products.
- Tested in Facebook Android app with 2B+ users.
- Pipelined aggregated metrics, reducing storage from 2 TB to 69 GB and speeding hive and scuba queries.
- Automated validation of results/errors during sampling and aggregations using machine learning tools.
- Created UI and charts for comparing result with theoretical models in React and GraphQL.

**Clamphook Pvt. Ltd., Nepal, Frontend Engineer:** April 2021 – August 2021

- Architected an e-learning web application ( [www.clamphook.com](http://www.clamphook.com) ) currently having 50000+ users.
- Improved loading time by 40% and users' retention by 25% by generating static pages for onboarding.
- Revamped support for Latex, Markdown, and Smiles Components and decreased render time by 50%.
- Mentored and led a team of 5 for frontend development.
- Designed and programmed subscriptions and a customized dashboard for students.

### RELEVANT PROJECTS

**PySCoOL:** C++, Python, High Performance Computing

- Built a Python based framework for [Scalable Common Optimization Library](#) (SCoOL), written in C++, by using pybind11 making it simple for researchers from other fields to perform HPC computation.
- Designed interfaces in python for OpenMP, MPI and CUDA based framework in SCoOL.

**CLI Chat Application:** C++, Sockets, Course Project

- Constructed a command line chat application using socket programming with UNIX socket library.
- Enhanced it with P2P file transfer functionality between clients for already connected clients.

**Taco-DB:** C++, Database Systems, Course Project

- Built a database system in [Taco-DB](#) framework. Devised File manager, Buffer manager, Variable length data page, B+ tree, and interfaces for Heap scan, Index Scan and Internal and External Sorting.
- Implemented Selection, Projection, Joins (Index and Sort Merge) and Aggregation queries processing.

**Pintos-OS:** C, Operating Systems, Course Project

- Created a wait queue, priority scheduler and BSD scheduler in [Pintos](#) OS framework.
- Implemented user program execution, system calls and virtual memory and memory mapped files.

**Split It Out:** Tesseract, NLP, React, Flask

- Devised a computer vision application for scanning and splitting receipts using Tesseract. [\[GitHub\]](#).
- Analyzed each type of expenses with Google Natural Language API and displayed insights with React.

**GKC Good Karma Coin:** Solidity, Web3, React

- Engineered a blockchain application based in Ethereum Network and smart contracts in solidity, helping charity reach right people. Won Best blockchain hack in UB hackathon 2022.
- Interfaced Ethereum network in web3.js and developed UI using MUI(React). [\[GitHub\]](#).

### AWARDS & INVOLVEMENT

**Society of Mechanical Engineering Students, Tribhuvan University, President:** August 2017 – June 2018