

KISAN THAPA

Quincy, MA | P: +1 6178428041 | kisanthapa33@gmail.com
www.github.com/KisanThapa | www.linkedin.com/in/kisanthapa

EDUCATION

University of Massachusetts Boston Boston, MA
PhD in Computer Science Expected May 2025

- **Research Interests:** Computational Biology, Network Analysis, and Pathway Analysis. To develop computational methods to study biological networks and software tools to help biologists analyze their data.

University of Massachusetts Boston Boston, MA
MS in Computer Science (GPA: 3.8/4.0) Sep 2021 - Sep 2023

- **Relevant Courseworks:** Analysis of Algorithms; Object-Oriented Software Design; Machine Learning; AI; Mobile Applications; Computer Vision; Neural Network; User Interface Design

Pokhara University Pokhara, Nepal
Bachelor of Computer Engineering (GPA 3.8/4.0) [Dean's List 2017, Top 3] Aug 2013 - Sep 2017

EMPLOYMENT

Graduate Research Assistant **Network Biology Lab** **Sep 2021- Present**

- Redesigned the Causalpath webserver with Newt visualization integration, resulting in a 2x increase in user engagement and enabled high responsiveness for large-scale graphs.
- Developed a transcription factor activity prediction tool that speeds up analyses by 25x through parallelization and vectorization.
- Implemented a Python-based pipeline to implement a Single Cell Pathway Analysis Tool, streamlining data processing and analysis, resulting in a 50% reduction in analysis time and enabling faster identification of key biological pathways.
- Collaborated with a research group to extract meaningful insights from collected mouse breast cancer data, contributing to their analysis efforts.
- Leveraged Knowledge in Python, Numpy, Pandas, Java, HTML, Tailwind CSS, Node JS, React JS, Django, Rest API, Debugging

Software Engineer **EB Pearls Pvt. Ltd.** **Aug 2020 - Aug 2021**

Helps to develop and provide consultant to customers (<https://ebpearls.com.au/>)

- Designed of the mobile part for the 'Halo' local crowdfunding initiative, impacting more than 5000 beneficiaries by establishing the mechanism of donation from donors to needy individuals' accounts.
- Refactored Android legacy codes to industry-standard practices, reducing feature upgrade time by more than half.
- Optimized heatmap view for a million test users within the Intro Dating App using Google Map SDK.
- Leveraged Knowledge in Java, Kotlin, Android SDK, JUnit, Espresso, DI, Rest API, AWS S3, Firebase, Caching, Jira, C++, Google Map.

Software Engineer **Rooster Logic Pvt. Ltd.** **Nov 2017 - June 2020**

- Resolved 20 issues in the Sukarmi Mobile App, leading to a threefold reduction in survey completion time per user.
- Created an issue tracking system using Android Development and Node JS server for rainwater harvesting plants for households, resulting in a 80% reduction in issue resolve time.
- Leveraged Knowledge in Java, Android SDK, Node JS webserver, Javascript, Firebase, Rest API, Project Management.

PROJECTS

Personal Website: <https://kisanthapa.github.io/> (for additional information and projects)

CausalPath Newt Web Server (<https://causalpath.cs.umb.edu/>): Interactive visualization tool for biological pathways

- Substituted the conventional Cytoscape.js library with the robust Newt library to render pathway graphs, subsequently enhancing rendering speed and enabling seamless interactivity.
- Utilized: JavaScript, HTML, CSS, Node JS, Git, Chrome Dev Tools

Molecular Communication

- Enhanced project performance by implementing Java multithreading, resulting in a substantial reduction in runtime by refactoring the project to incorporate efficient multithreading techniques.

Gene Mutation Classification

- Build a classifier utilizing TCGA to distinguish between mutated and non-mutated genes, resulting an accuracy rate of approx 92%.
- Utilized: Python, Tensorflow, Jupyter Notebook, Numpy, Pandas, scikit-learn, Google Colab

Connect (a Chat Application)

- Developed a real-time Android chat application using Java and Firebase, enabling users to engage in one-to-one or group conversations with friends.
- Utilized: Java, Gradle, Android Studio, Firebase, Rest API, Kotlin, XML,

SKILLS

Software: (*proficient*): Python, Java, Kotlin JavaScript, Git, npm, TypeScript, Android App Development, Rest API (*good at*): Node JS, React JS, C, C++, SQL, HTML/CSS, Pandas, Numpy, Django, Tensorflow, OpenCV