

Abhisan Ghimire

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RESEARCH INTERESTS

Human-computer interaction · child-computer interaction · social computing · learning technologies. I study how people, especially children and young people, understand, trust, and use the technologies around them, from social video platforms to AI tools, and how that understanding can shape technology that is safer, easier to learn, and better aligned with the people it serves. My work spans large-scale analysis of harmful content on YouTube and TikTok and daily hands-on work teaching young people coding, web design, and online safety.

EDUCATION

Clark University, Worcester, MA | M.S. in Computer Science May 2023

- GPA 3.97 · Alpha Epsilon Lambda (graduate honor society) · Appreciation Award for Outstanding Achievement
- Research with Prof. Shuo Niu on social video platforms and harmful online content

New England College, Henniker, NH | M.B.A. In progress

Dr. Ambedkar Institute of Technology, Bengaluru, India | B.E. in Computer Science Dec 2019

PUBLICATIONS

Human-computer interaction and social computing

- 1 Niu, S., Veazey, K., Pagan, P., & **Ghimire, A.** (2022). Understanding Hate Group Videos on YouTube. *CSCW '22 Companion* (ACM Conference on Computer Supported Cooperative Work and Social Computing), 32–36. Also presented as a poster at SIGCHI. [ACM DL](#)
- 2 Niu, S., Shrestha, D., **Ghimire, A.**, & Lu, Z. (2023). A Survey on Watching Social Issue Videos among YouTube and TikTok Users. *arXiv:2310.19193*.

Applied AI and health data

- 1 Tiruwa, K. R., **Ghimire, A.**, & Shah, A. K. (2026). Social Determinants of Health and Fentanyl Overdose Mortality Across US Counties: An XGBoost and SHAP Analysis Identifying Silent Risk Counties and Treatment Deserts. *Substance Use & Misuse*. [DOI](#)
- 2 Tiruwa, K. R., & **Ghimire, A.** (2026). Wearable-Grade Lead Reduction Disproportionately Degrades ECG AI Performance in Elderly Patients: Evidence from PTB-XL and MIT-BIH. *medRxiv* (preprint). [DOI](#)

Earlier work

- 1 **Ghimire, A.** Integrated Library Management System Using Barcode via Android and Web. *National Conference on Recent Trends in Science, Engineering, and Management*, Bengaluru, India.

RESEARCH EXPERIENCE

Research Assistant and Software Developer, Clark University (Prof. Shuo Niu's lab) Mar 2022 to May 2023

- Studied how hate groups use YouTube and how viewers watch social-issue videos on YouTube and TikTok
- Built and published open-source Python data-collection packages (NiuLab-crawl-YouTube-screenshots, NiuLab-download-YouTube-shorts, NiuLab-Download-TikTok-Videos) using Pandas, youtube-dl, TikTokApi, Selenium, and BeautifulSoup
- Developed an image-processing tool with OpenCV and ImageAI to classify video types

Student Researcher, Worcester Polytechnic Institute (Prof. Neil Heffernan's lab)

- Worked on LLM-based knowledge tracing (LLM-KT): using large language models to model what students know from their learning activity and predict how they will perform
- This work sparked my research interest in learning technologies and how people learn with AI

Mobile Application Developer and Teaching Assistant, Clark University Sep to Dec 2022

- Built a MediaPipe face and hand recognition API on Raspberry Pi for student projects; researched Raspberry Pi and mobile integration for applications serving people with disabilities

TEACHING AND YOUTH TECHNOLOGY EDUCATION

Education Coordinator, Boys & Girls Club of Worcester Jun 2024 to Present

- Teach youth internet safety and digital citizenship on platforms they already use, such as Roblox and Discord: strong passwords, spotting scams and phishing, and privacy settings
- Teach Scratch programming so young people design their own games; built a website where they publish, play, and share them
- Mentor youth in designing and building their own websites with HTML
- Facilitated a WPI child-robot interaction study hosted at the Club, coordinating logistics and youth participant engagement

Teaching Assistant, Mobile Software Development (undergraduate), Clark University Fall 2022

- Supported final projects, graded assignments, and built a minimal Kotlin Android app to teach core mobile concepts

Instructor, Sounds of Melody, Bengaluru, India Jan 2018 to Jan 2019

- Tutored children in chess and Rubik's cube; organized and taught "Coding with Kids," a Scratch programming workshop

INDUSTRY EXPERIENCE

Software Developer, Vastika Inc. Sep 2023 to Jun 2024

- Maintained and extended web applications (HTML, CSS, PHP, .NET), working closely with non-technical staff to keep them reliable and usable

Software Engineer, Innovative Solution Pvt. Ltd., Lalitpur, Nepal Jan 2020 to Dec 2021

- Worked with doctors to build COVID-19 self-assessment and remote-monitoring tools for early detection (Laravel, OpenLayers, GeoServer, PostgreSQL)
- Built Android and web apps for post-earthquake building vulnerability assessment in Dolakha, Lalitpur, and Bharatpur districts
- Developed GIS infrastructure management software for the Nepal Telecommunications Authority; built data tools for the COVID-19 Crisis Management Center and a KoboToolbox field-data integration system

Freelance Software Developer

- Built the backend and a GIS survey Android app (RSLUP-Dullu) for Risk-Sensitive Land Use Planning with two municipalities; designed and deployed websites and an inventory system for small businesses; published a reusable Laravel package

SELECTED PROJECTS AND RESEARCH SOFTWARE

- **Personal finance aggregator:** web app that connects bank and card accounts through the Plaid API and tracks all of a user's finances in one place; built with AI-assisted coding (vibe coding) to explore how far AI tools can take a solo builder
- **15-minute progress tracker:** offline-first progressive web app that logs how each 15-minute block of the day is spent, so progress becomes visible over time ([GitHub](#))
- **Scratch game-sharing site:** website where young learners at the Boys & Girls Club publish and share the games they build
- **Social video research packages:** open-source Python tools on [PyPI](#) for collecting YouTube and TikTok content for research
- **Earlier apps:** ILMS barcode library system (Android and web, Google Books API) and RSLUP-Dullu GIS survey tool, both on Google Play; To-Do App; facial-recognition attendance system (undergraduate project)

SKILLS

Research and data: Python, Pandas, Jupyter, Selenium, BeautifulSoup, OpenCV, ImageAI, MediaPipe, XGBoost/SHAP, SQL, PostgreSQL/PostGIS

Building systems: JavaScript, React, Vue, Laravel/PHP, .NET/C#, Java, Kotlin, Android, HTML/CSS, Plaid API, AI-assisted development

Teaching and infrastructure: Scratch, beginner HTML; Git, Linux (Ubuntu, CentOS), Apache, GeoServer

Languages: English, Nepali, Hindi

LEADERSHIP

Delegate of Nepal, Asia-Pacific Youth Exchange Program, Manila, Philippines (January 2018). Co-developed Cacao Market, an incentive-based financial idea for local communities that received seed funding.