

# SUBIGYA NEPAL

EMAIL: [sknepal@cs.dartmouth.edu](mailto:sknepal@cs.dartmouth.edu)  
WEBSITE: [cs.dartmouth.edu/~sknepal](https://cs.dartmouth.edu/~sknepal)

MOBILE: +1-347-891-8918  
LINKEDIN: [linkedin.com/in/sknepal](https://linkedin.com/in/sknepal)

## EDUCATION

JUN 2024 (EXPECTED)	<b>PhD in COMPUTER SCIENCE</b> Dartmouth College, NH, USA <ul style="list-style-type: none"><li>25+ Papers (9 first-authored), h-index: 12, citations: 1100+</li><li>Grad-level coursework: Deep Learning, Artificial Intelligence, Machine Learning &amp; Statistical Analysis, Applications of Data Science, Cognitive Computing, Concurrent Algorithms, Robot Design &amp; Programming, Introduction to Human-Computer Interaction (HCI)</li><li>Research Interests: Applied Machine Learning, AI, Passive Sensing, Mobile/Digital Health, Mental Health and Well-being.</li><li>Advisor: <a href="#">Dr. Andrew T. Campbell</a></li></ul>
2017	<b>BACHELOR OF SCIENCE in COMPUTER SCIENCE</b> Deerwalk Institute of Technology, Kathmandu, Nepal

## RESEARCH EXPERIENCE

SEP 2018 TO PRESENT	<b>DARTMOUTH COLLEGE, USA</b> <i>Graduate Research Assistant</i> <ul style="list-style-type: none"><li>Developed apps for ubiquitous sensing devices, like mobile phones and wearables, enabling cross-device communication and in-the-wild participant tracking in mental health and wellbeing studies.</li><li>Analyzed extensive longitudinal data with advanced machine learning and deep learning techniques to assess and predict human behavior, specifically focusing on mental health and wellbeing.</li><li>Enhanced Android applications for research projects, ensuring seamless integration within existing codebases and maintaining functionality.</li><li>Managed AWS servers, developing server-side scripts and web backends for efficient data handling and analysis.</li><li>Participated in multidisciplinary, multi-university collaborative research, particularly with psychologists, psychiatrists, and brain scientists, to identify research challenges and provide technical solutions.</li><li>Led the design, data collection, cleaning, feature engineering, and machine learning modeling for various NSF/NIH mobile sensing projects at Dartmouth College.</li><li>Published innovative research in top-ranked journals and conferences in Computer Science, including ACM IMWUT and CHI, contributing to the fields of mobile sensing, machine learning, and human behavioral modeling.</li><li>Actively involved as a Teaching Assistant, supporting student learning in relevant courses, and regularly presented analytical findings at various academic forums and conferences.</li></ul> <b>Core competencies:</b> Application Development, Human-Centered Study Design, Longitudinal Data Analysis, Machine Learning, Deep Learning, Digital Phenotyping, Mental Health, Digital Health, HCI, Data Visualization, Quantitative and Qualitative Research Methods
JUN 2023 TO SEP 2023	<b>Microsoft Research, Cambridge, MA, USA</b> <i>Research Intern, Human Understanding and Empathy group</i> <ul style="list-style-type: none"><li>Conducted research on the efficacy of Large Language Models (LLMs) in enhancing productivity and well-being among information workers.</li><li>Executed two studies: an initial user study followed by a subsequent study involving participant interaction with chat agents.</li><li>Investigated prompt engineering techniques and developed prototypes comparing a chat agent with a generic dashboard to aid information workers in better understanding their workplace behaviors.</li><li>Engaged in an iterative design process for refining hypotheses and research objectives.</li><li>Collaborated effectively with team members and interns, actively involving additional stakeholders in the research process.</li><li>Presented research findings to key stakeholders and led the preparation of the manuscript.</li></ul> <b>Mentors:</b> Drs. <a href="#">Javier Hernandez</a> , <a href="#">Mary Czerwinski</a> <b>Core competencies:</b> LLMs, User Studies, ChatGPT, Prompt Engineering, Chat Agents, Prototyping, User Experience (UX)
JUN 2022 TO SEP 2022	<b>Microsoft Research, Redmond, WA, USA</b> <i>Research Intern (Remote), Human Understanding and Empathy group</i> <ul style="list-style-type: none"><li>Spearheaded two key projects aimed at investigating well-being in the workplace.</li><li>Project 1: Understanding the dynamics between workplace rhythms and employee well-being.</li><li>Project 2: Fundamental research on burnout among cybersecurity workers.</li><li>Managed the entire research pipeline, encompassing study design, ethics review, data collection, analysis, and presentation of results.</li><li>Facilitated cross-team collaboration and maintained effective communication with a diverse range of stakeholders.</li><li>Authored two primary manuscripts; one was published at CHI 2023, and the other at CSCW 2024.</li></ul> <b>Mentors:</b> Drs. <a href="#">Javier Hernandez</a> , <a href="#">Mary Czerwinski</a> <b>Core competencies:</b> Project Leadership and Management, Workplace Behaviors, Employee Wellbeing Research, Burnout Analysis, Study Design and Execution, Ethics Review and Compliance, Cross-teams collaboration and Communication

## OTHER PROFESSIONAL EXPERIENCE

AUG 2015 TO AUG 2018	<b>TECHLEKH SERVICES PVT. LTD., NEPAL</b> <i>Co-Founder &amp; CTO</i> <ul style="list-style-type: none"><li>• Co-founded TechLekh, a rapidly growing technology media startup in Nepal, during undergraduate studies</li><li>• Activities include tech media as well as software development services through a sister offshoot</li><li>• Oversaw delivery of large-scale projects including edtech platforms, machine learning products, and web applications</li><li>• Currently one of Nepal's leading tech media properties with a significant following</li><li>• Managed diverse responsibilities such as: setting organizational goals, overseeing managerial tasks, spearheading product development for sister organization</li></ul> <b>Core competencies:</b> Entrepreneurship and Startup Management, Strategic Planning and Goal Setting, Software Development & Engineering, Team Management and Collaboration, Project Leadership and Execution
-------------------------	---

## SELECTED PUBLICATIONS (FULL LIST: [GOOGLE SCHOLAR](#) | [DBLP](#) | [ACM DL](#))

ACCEPTED OR PUBLISHED	<ol style="list-style-type: none"><li>9. S Nepal, A Pillai et al., <i>MoodCapture: Depression Detection using In-the-Wild Smartphone Images</i> ACM CHI 2024. Acceptance rate: 26%.</li><li>8. S Nepal et al., <i>Capturing the College Experience: A Four-Year Mobile Sensing Study of Mental Health, Resilience and Behavior of College Students during the Pandemic</i>, ACM UbiComp 2024. [In press]</li><li>7. S Nepal et al., <i>Burnout in Cybersecurity Incident Responders: Exploring the Factors that Light the Fire</i>, ACM CSCW 2024. [In press]</li><li>6. S Nepal et al., <i>Workplace Rhythm Variability and Emotional Distress in Information Workers</i>, ACM CHI 2023. Acceptance rate: 34%.</li><li>5. S Nepal et al., <i>COVID Student Study: A Year in the Life of College Students during the COVID-19 Pandemic Through the Lens of Mobile Phone Sensing</i>, ACM CHI 2022. Acceptance rate: 12.5%.</li><li>4. S Nepal et al., <i>Assessing the Impact of Commuting on Workplace Performance Using Mobile Sensing</i>, IEEE Pervasive Computing Magazine 2021. Impact factor: 3.175.</li><li>3. S Nepal et al., <i>Current practices in mental health sensing</i>, ACM XRDS Magazine 2021.</li><li>2. S Nepal et al., <i>Detecting Job Promotion in Information Workers Using Mobile Sensing</i>, ACM UbiComp 2020. Acceptance rate: 24%.</li><li>1. S Mirjafari et al., <i>Differentiating higher and lower job performers in the workplace using mobile sensing</i>, ACM UbiComp 2019. Acceptance rate: 20%.</li></ol>
IN-PREP OR REVIEW	<ol style="list-style-type: none"><li>5. S Nepal et al., <i>Contextual AI Journaling: Integrating LLM and Time Series Behavioral Sensing Technology to Promote Self-Reflection and Well-being using the MindScape App</i>, Under Review at CHI Extended Abstract 2024.</li><li>4. S Nepal, A Pillai et al., <i>Social Isolation and Serious Mental Illness: The Role of Context-Aware Mobile Interventions</i>, Under Review at IEEE Pervasive Computing Magazine 2024.</li><li>3. S Nepal et al., <i>Multi-Study Pooling and Adaptation to Boost Mental Health Diagnosis using Mobile Sensing and Deep Learning</i>, In-preparation for Journal of Medical Internet Research, 2024.</li><li>2. S Nepal et al., <i>From User Surveys to Telemetry-Driven Agents: Exploring the Potential of Personalized Productivity Solutions</i>, Under review at ACM CSCW 2024.</li><li>1. S Nepal et al., <i>A Survey of Passive Sensing in the Workplace</i>, Under review at CHIWork 2024.</li></ol>

## VOLUNTEERING & AWARDS

VOLUNTEER	<ul style="list-style-type: none"><li>• Founding Board Member, Better Life Social Organization USA → A 501(c)(3) non-profit organization working for disadvantaged children mainly in Nepal</li><li>• Founding Member, Dartmouth Nepali Students Association → Dartmouth student club for students of Nepali origin</li></ul>
REVIEWER	• ACM UbiComp 2019, 2021-2024 • ACM CHI 2021, 2024 • ACM CSCW 2021, 2022 • Scientific Reports 2021
AWARDS	<ul style="list-style-type: none"><li>• Special Recognition for Outstanding Review at CSCW 2023 and CHI 2024 (2x)</li><li>• Best Poster Award at Dartmouth Digital Health Summit (2023), Dartmouth College, USA</li><li>• Distinguished Paper Award (2023), ACM UbiComp, Cancún, Mexico</li><li>• Neukom Outstanding Graduate Research Award (2023), Dartmouth College, USA</li><li>• Guarini Travel Award (2023), Guarini School of Graduate and Advanced Studies, Dartmouth College, USA</li><li>• Neukom Travel Grant (2023), Neukom Institute for Computational Science, Dartmouth College, USA</li><li>• Best Paper Honorable Mention (2020), IEEE Pervasive Computing Workshop</li></ul>

## MISCELLANEOUS

TECH SKILLS	• Python • Java • JavaScript • Bash Script • Android • Git • Nginx • SQL • MongoDB • PyTorch • R • PHP • Flask • Laravel • Docker • HuggingFace • FastAI • Scikit-learn • AWS • Azure Cloud Storage • REST • Mlxtend
MEDIA	<ul style="list-style-type: none"><li>• <i>Technology fueled America's youth mental health crisis, but it can help end it</i>. Washington Post, September 2023.</li><li>• <i>Pandemic exposed mental health divide among college students, study says</i>. Washington Post, May 2022.</li><li>• <i>Smartphone intervention feasible for Severe Mental Illness</i>. HealthDay, Nov 2021.</li><li>• <i>Wearable tech confirms wear-and-tear of work commute</i>. Dartmouth News, Nov 2021.</li><li>• <i>Rates of anxiety and depression among college students continue to soar, researchers say</i>. Washington Post, June 2021.</li><li>• <i>Coronavirus has made already-stressed college students even more anxious &amp; depressed</i>. Washington Post, July 2020.</li><li>• <i>Researchers developed a sensing system to constantly track the performance of workers</i>. TechCrunch, June 2019.</li></ul>
LANGUAGES	• English (fluent) • Hindi (fluent) • Nepali (native)
REFERENCES	• Available upon request