

SUBIGYA NEPAL

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EDUCATION

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| 2024
(EXPECTED) | PhD in COMPUTER SCIENCE
Dartmouth College, NH, USA <ul style="list-style-type: none">• Grad-level coursework: Deep Learning, Artificial Intelligence, Machine Learning and Statistical Analysis, Applications of Data Science, Cognitive Computing, Concurrent Algorithms, Robot Design and Program• Research Interests: Applied Machine Learning, Passive Sensing, Mobile/Digital Health and Well-being.• Advisor: Dr. Andrew T. Campbell |
| 2017 | BACHELOR OF SCIENCE in COMPUTER SCIENCE
Deerwalk Institute of Technology, Kathmandu, Nepal |

PROFESSIONAL EXPERIENCE

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| SEP 2018
TO PRESENT | DARTMOUTH COLLEGE, USA
<i>Graduate Research Assistant</i> <ul style="list-style-type: none">• Developed apps for ubiquitous sensing devices (e.g., mobile phones, wearables) enabling cross-device communication and <i>in-the-wild</i> participant tracking.• Analyzed large-scale, noisy, real-world longitudinal data to assess and predict human behavior using machine learning and deep learning techniques.• Enhanced Android applications for research studies and ensured seamless integration with existing codebase.• Managed AWS servers and developed server-side communication scripts and web backends for efficient data handling.• Designed data visualization dashboards and conducted quantitative and qualitative data analysis to evaluate and interpret collected data, effectively communicating results to stakeholders. Core competencies: Mobile & Wearable Application Development, Human-Centered Study Design, Longitudinal Data Analysis, Machine Learning, Deep Learning, Digital Phenotyping, Mental Health, Human Computer Interaction (HCI) |
| JUN 2023
TO SEP 2023 | Microsoft Research, Cambridge, MA, USA
<i>Research Intern, Human Understanding and Empathy group</i> <ul style="list-style-type: none">• Conducted research around understanding the potential of Large Language Models (LLM) in assisting in productivity and well-being of information workers.• Prepared and submitted manuscript to CHI 2024. Mentors: Drs. Javier Hernandez , Mary Czerwinski
Core competencies: LLMs, User Research, Workplace Productivity Research, Prompt Engineering, Manuscript Preparation |
| JUN 2022
TO SEP 2022 | Microsoft Research, Redmond, WA, USA
<i>Research Intern (Remote), Human Understanding and Empathy group</i> <ul style="list-style-type: none">• Led two projects focused on understanding well-being in the workplace• Conducted fundamental research on burnout among cybersecurity workers• Managed entire research pipeline, incl. study design, ethics review, data collection, analysis and result presentation• Fostered cross-team collaboration and effectively communicated with diverse stakeholders• Prepared two manuscripts as primary author; one was published at CHI 2023 and another at CSCW 2023 Mentors: Drs. Javier Hernandez , Mary Czerwinski
Core competencies: Project Leadership and Management, Workplace Well-being Research, Data Analysis and Interpretation, Study Design and Execution, Ethics Review and Compliance, Cross-teams collaboration and Communication |
| AUG 2015
TO AUG 2018 | TECHLEKH SERVICES PVT. LTD., NEPAL
<i>Co-Founder & CTO</i> <ul style="list-style-type: none">• Co-founded TechLekh, a rapidly growing technology media startup in Nepal, during undergraduate studies• Activities include tech media as well as software development services through a sister offshoot• Oversaw delivery of large-scale projects including edtech platforms, machine learning products, and web applications• Currently one of Nepal's leading tech media properties with a significant following• Managed diverse responsibilities such as: setting organizational goals, overseeing managerial tasks, spearheading product development for sister organization Core competencies: Entrepreneurship and Startup Management, Strategic Planning and Goal Setting, Software Development & Engineering, Team Management and Collaboration, Project Leadership and Execution. |

PUBLICATIONS

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| 2023 | <p>22. [Accepted] S Nepal et al., <i>Burnout in Cybersecurity Incident Responders: Exploring the Factors that Light the Fire</i>, ACM CSCW 2023.</p> <p>21. [Accepted] Nemesure et al., <i>Depressive symptoms as a heterogeneous and constantly evolving dynamical system: Idiographic depressive symptom networks of rapid symptom changes among persons with major depressive disorder</i>, Journal of Psychopathology and Clinical Science. Impact Factor: 7.8.</p> <p>20. Wang et al., <i>The Power of Speech in the Wild: Discriminative Power of Daily Voice Diaries in Understanding Auditory Verbal Hallucinations using Deep Learning</i>, ACM Ubicomp 2023.</p> <p>19. Arvind Pillai, S Nepal et al., <i>Rare Life Event Detection via Mobile Sensing Using Multi-Task Learning</i>, CHIL 2023. Acceptance rate: 36%.</p> <p>18. Deanna M. Barch et al., <i>Dissociation of Cognitive Effort-Based Decision Making and its Associations with Symptoms, Cognition, and Everyday Life Function Across Schizophrenia, Bipolar Disorder, and Depression</i>, Biological Psychiatry 2023. Impact Factor: 13.38.</p> <p>17. S Nepal et al., <i>Workplace Rhythm Variability and Emotional Distress in Information Workers</i>, ACM CHI 2023 Extended Abstracts. Acceptance rate: ~30%.</p> |
| 2022 | <p>16. [Distinguished Paper Award] X Xu, X Liu, H Zhang, W Wang, S Nepal et al., <i>GLOBEM: Cross-Dataset Generalization of Longitudinal Human Behavior Modeling</i>, ACM Ubicomp 2023.</p> <p>15. W Wang, S Nepal et al., <i>First-Gen Lens: Assessing Mental Health of First-Generation Students across Their First Year at College Using Mobile Sensing</i>, ACM Ubicomp 2022.</p> <p>14. [Media Coverage] 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%.</p> |
| 2021 | <p>13. [Media Coverage] D Ben-Zeev et al., <i>A Smartphone Intervention for People With Serious Mental Illness: Fully Remote Randomized Controlled Trial of CORE</i>, JMIR 2021. Impact factor: 5.43.</p> <p>12. S Mirjafari, H Bagherinezhad, S Nepal et al., <i>Predicting Job Performance Using Mobile Sensing</i>, IEEE Pervasive Computing Magazine 2021. Impact factor: 3.175.</p> <p>11. [Media Coverage] S Nepal, GJ Martinez, S Mirjafari et al., <i>Assessing the Impact of Commuting on Workplace Performance Using Mobile Sensing</i>, IEEE Pervasive Computing Magazine 2021. Impact factor: 3.175.</p> <p>10. W Wang et al., <i>On the Transition of Social Interaction from In-Person to Online: Predicting Changes in Social Media Usage of College Students during the COVID-19 Pandemic based on Pre-COVID-19 On-Campus Colocation</i>, ACM ICMI 2021. Acceptance rate: 30%.</p> <p>9. S Nepal et al., <i>Current practices in mental health sensing</i>, ACM XRDS Magazine 2021.</p> <p>8. [Media Coverage] DL Mack et al., <i>Mental Health and Behavior of College Students During the COVID-19 Pandemic: Longitudinal Mobile Smartphone and Ecological Momentary Assessment Study, Part II</i>, JMIR 2021. Impact factor: 5.43.</p> |
| 2020 | <p>7. S Nepal, S Mirjafari et al., <i>Detecting Job Promotion in Information Workers Using Mobile Sensing</i>, ACM UbiComp 2020. Acceptance rate: 20-25%.</p> <p>6. W Wang, S Mirjafari, ..., S Nepal et al., <i>Social Sensing: Assessing Social Functioning of Patients Living with Schizophrenia using Mobile Phone Sensing</i>, ACM CHI 2020. Acceptance rate: 24.3%.</p> <p>5. [Best Paper Honorable Mention] GJ Martinez, ..., S Mirjafari, S Nepal et al., <i>Improved Sleep Detection Through the Fusion of Phone Agent and Wearable Data Streams</i>, IEEE PerCom Workshop 2020.</p> <p>4. GJ Martinez, SM Mattingly, S Mirjafari, S Nepal et al., <i>On the Quality of Real-world Wearable Data in a Longitudinal Study of Information Workers</i>, IEEE PerCom Workshop 2020.</p> <p>3. [Media Coverage] JF Huckins et al., <i>Mental Health and Behavior of College Students During the Early Phases of the COVID-19 Pandemic: Longitudinal Smartphone and Ecological Momentary Assessment Study</i>, JMIR 2020. Impact factor: 5.43.</p> |
| 2019 | <p>2. VD Swain, ..., S Mirjafari, S Nepal et al., <i>A Multisensor Person-Centered Approach to Understand the Role of Daily Activities in Job Performance with Organizational Personas</i>, ACM Ubicomp 2019. Acceptance rate: 20-25%.</p> <p>1. [Media Coverage] S Mirjafari et al., <i>Differentiating higher and lower job performers in the workplace using mobile sensing</i>, ACM Ubicomp 2019. Acceptance rate: 20-25%.</p> |

PAPERS IN PREPARATION/UNDER REVIEW

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| 2023-2024 | <ol style="list-style-type: none">7. S Nepal et al., <i>From User Surveys to Telemetry-Driven Agents: Exploring the Potential of Personalized Productivity Solutions</i>, Under review at ACM CHI 2024.6. S Nepal et al., <i>MoodCapture: Depression Detection using In-the-Wild Smartphone Images</i>, Under review at ACM CHI 2024.5. S Nepal et al., <i>The Pandemic College Experience: A Four-Year Mobile Sensing Study of Mental Health, Resilience and Behavior of College Students</i>, Under review at ACM Ubicomp 2023.4. S Nepal et al., <i>Social Isolation and Serious Mental Illness: The Role of Context-Aware Mobile Interventions</i>, Under review at IEEE Pervasive Computing Magazine 2023 Special Issue on Population in Crisis.3. S Nepal et al., <i>Multi-Study Pooling and Adaptation to Boost Mental Health Diagnosis using Mobile Sensing and Deep Learning</i>, Under review at ACM CHI 2024.2. A Pillai, S Nepal et al., <i>Investigating Generalizability of Speech-based Suicidal Ideation Detection Using Mobile Phones</i>, Under review at ACM Ubicomp 2023.1. A Collins et al., <i>Semantic signals in self-reference: The detection and prediction of depressive symptoms from the daily diary entries of a sample with major depressive disorder</i>, Depression and Anxiety. |
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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
TEACHING ASSISTANTSHIP	● CS 1: Introduction to Programming & Computation. Spring 2023. ● CS 074/174: Machine Learning & Statistical Data Analysis. Winter 2023. ● Computer Science Orientation for First Generation Students. Aug 2021. ● CS 65/165: Smartphone Programming. Spring 2019 & 2020. ● CS 55: Security and Privacy. Fall 2018.
PRESENTATIONS	● <i>The Power of Speech in the Wild</i> , ACM Ubicomp 2023, Cancún, Mexico ● <i>Workplace Rhythm Variability and Emotional Distress in Information Workers</i> , ACM CHI 2023, Hamburg, Germany ● <i>COVID Student Study: A Year in the Life of College Students during the COVID-19 Pandemic</i> , ACM CHI 2022, New Orleans, LA ● <i>Differentiating higher and lower job performers in the workplace using mobile sensing</i> , ACM Ubicomp 2019, London, UK
VOLUNTEER	● Founding Board Member, Better Life Social Organization USA → A 501(c)(3) non-profit organization working for disadvantaged children mainly in Nepal ● Founding Member, Dartmouth Nepali Students Association → Dartmouth student club for students of Nepali origin
REVIEWER	● ACM UbiComp 2019, 2021, 2022, 2023 ● ACM CHI 2021, 2024 ● ACM CSCW 2021, 2022 ● Scientific Reports 2021
AWARDS	● Best Poster Award at Dartmouth Digital Health Summit (2023), Dartmouth College, USA ● Distinguished Paper Award (2023), ACM Ubicomp, Cancún, Mexico ● Neukom Outstanding Graduate Research Award (2023), Dartmouth College, USA ● Guarini Travel Award (2023), Guarini School of Graduate and Advanced Studies, Dartmouth College, USA ● Neukom Travel Grant (2023), Neukom Institute for Computational Science, Dartmouth College, USA ● Best Paper Honorable Mention (2020), IEEE Pervasive Computing Workshop ● Dartmouth Fellowship (2018), Dartmouth College, USA ● Largest Merit Based Scholarship in the Class of 2017 (2013), Deerwalk Institute of Technology, Nepal
MEMBERSHIPS	● Association for Computing Machinery (ACM) ● Special Interest Group on Computer-Human Interaction (SIGCHI)
MEDIA	● <i>Technology fueled America's youth mental health crisis, but it can help end it</i> . Washington Post, September 2023. ● <i>Pandemic exposed mental health divide among college students, study says</i> . Washington Post, May 2022. ● <i>Smartphone intervention feasible for Severe Mental Illness</i> . HealthDay, Nov 2021. ● <i>Wearable tech confirms wear-and-tear of work commute</i> . Dartmouth News, Nov 2021. ● <i>Rates of anxiety and depression among college students continue to soar, researchers say</i> . Washington Post, June 2021. ● <i>Coronavirus has made already-stressed college students even more anxious & depressed</i> . Washington Post, July 2020. ● <i>Researchers developed a sensing system to constantly track the performance of workers</i> . TechCrunch, June 2019.
LANGUAGES	● English (fluent) ● Hindi (fluent) ● Nepali (native)
REFERENCES	● Available upon request