

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 Health• 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> <p>I primarily work with ubiquitous sensing devices such as mobile phones and wearables, developing apps that can connect to and communicate across different devices and technologies. The human-centered studies that I work on utilize such apps for tracking participants <i>in-the-wild</i> resulting in a large amount of noisy real-world longitudinal data. My research involves performing different analyses leveraging machine learning and deep learning techniques on such multi-modal data to mostly assess and predict human behavior, such as job performance and well-being. My responsibilities include the following:</p> <ul style="list-style-type: none">• Develop Android apps for studies and/or add features to existing code-base.• Manage the AWS server and write bash/python scripts and web-backends for server side communication.• Create dashboard for visualization of the collected data in order to track the compliance and data-flow.• Generate features from the gathered data for further analysis down-the-line.• Perform analysis on the raw data as well as generated features using different quantitative analysis approaches such as exploratory data analysis, machine learning and deep learning.• Communicate the progress of the studies as well as findings to all the stakeholders involved via regular meetings, publications etc. <p>Technology stack: Python, Java, Android, PyTorch, Scikit-learn, Mlxtend, Mongo, MySQL, JavaScript, Flask, Git, AWS.</p> <p><i>Teaching Assistant</i></p> <ul style="list-style-type: none">• Computer Science Orientation (FALL 2021)• Smartphone Programming (Spring 2020 and 2019)• Security and Privacy (FALL 2018) |
| JUN 2022
TO SEP 2022 | Microsoft Research, Redmond, WA, USA
<i>Research Intern (Remote), Human Understanding and Empathy group</i> <p>During my internship at Microsoft Research, I had the opportunity to lead two efforts around understanding well-being at work. My first project leveraged existing dataset to identify how regularity in workplace rhythm is related to well-being. In addition, I also executed some fundamental research in trying to understand burnout in cybersecurity workers. I took a leadership role in conducting the entirety of the 'research pipeline' i.e., study design, ethics review, deployment & data collection, analysis, and presentation of the results. A large part of my internship also involved communicating with a diverse group of stakeholders and cross-teams collaboration. The outcomes of this internship include two manuscripts (as primary author) that are currently in preparation and positive praise and acknowledgment for the work from mentors and collaborators.</p> <p>Mentors: Drs. Javier Hernandez, Mary Czerwinski
Technology stack: Python, R, Scikit-learn, Git, Azure Cloud Storage.</p> |
| AUG 2015
TO AUG 2018 | TECHLEKH SERVICES PVT. LTD., NEPAL
<i>Co-Founder & CTO</i> <p>TechLekh is a fast-growing technology media startup based in Nepal that I co-founded during my undergraduate studies. We started our operations as a tech media company along with a sister offshoot that specialized in software development services. I led the software development branch, which successfully delivered big projects including educational tech platforms, machine learning products and several web applications. The main startup, TechLekh, is currently one of the leading tech media properties of Nepal and has a large following in the technology scene there. My responsibilities as a Co-founder and CTO were diverse, from managerial, for instance, setting organizational goal to developing products such as while leading the sister organization.</p> <p>Technology stack: PHP, Laravel, Scikit-learn, REST, Python, Flask, WordPress.</p> |

PUBLICATIONS

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| 2022 | <p>16. [Accepted] 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> |

MISCELLANEOUS

TECHNICAL SKILLS	<ul style="list-style-type: none"> • Python • Java • JavaScript • Bash Script • Android • Git • Nginx • SQL • MongoDB • PyTorch • Flask • Laravel • Docker • HuggingFace • FastAI • Scikit-learn • AWS
VOLUNTEER	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • ACM UbiComp 2019, 2021, 2022 • ACM CHI 2021 • ACM CSCW 2021, 2022 • Scientific Reports 2021
AWARDS	<ul style="list-style-type: none"> • Dartmouth Fellowship (2018), Dartmouth College, USA • Largest Merit Based Scholarship in the Class of 2017 (2013), Deerwalk Institute of Technology, Nepal
MEDIA	<ul style="list-style-type: none"> • <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	<ul style="list-style-type: none"> • English (fluent) • Hindi (fluent) • Nepali (native)