Sameer Neupane

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Education

- **University of Memphis** — Memphis, TN
  PhD, Computer Science — *Aug 2019 – May 2025*
- **Jawaharlal Nehru Technological University Anantapur (JNTUA)** — Anantapur, India
  Bachelor of Technology in Electronics and Communication Engineering — *June 2010- June 2014*

Experience

- **University of Memphis** — Memphis, TN
  Graduate Research Assistant — *Aug 2018 - Present*
  - ◦ Coordinated the design and execution of the nationwide MOODS Study, involving 122 participants wearing smartwatches for 100 days for momentary stress ratings and stressors using AI-triggered prompting. MOODS app was licensed for commercialization.
  - ◦ Developed Personal Informatics System with 16 insightful visualizations tailored to facilitate self-reflection.
  - ◦ Demonstrated the feasibility and utility of soliciting stressors through smartwatch-detected physiological events, revealing that momentary stressor logging and intuitive visualizations enhance stress awareness, fostering 14 self-initiated behavior modifications resulting in a 10% reduction in self-reported stress.
  - ◦ Developed AI-triggered Prompting (ATP) framework to determine prompt timing and predict personalized stressor listings to reduce interruption and response burden while reporting stressors in the natural environment.
  - ◦ Developed Machine learning models to predict when a user self-initiates behavioral changes for stress management.
  - ◦ Collaborated with researchers at Johns Hopkins University to lead a field study on opioid utilization in sickle-cell patients. Co-authored a research paper delving into the influence of affect and sleep on pain among sickle-cell patients, contributing to advancements in understanding and treatment methodologies.
- **OpenText** — Hyderabad, India
  Senior Software Engineer — *June 2014 - May 2018*
  - ◦ Developed code to address new road map items and fulfill customer-driven feature requests, ensuring alignment with project objectives and customer satisfaction.

Projects

- Developed a movie recommendation system using content and collaborative filtering.
- Designed and Developed Wireless Multi-axis Alive Human Detecting Robot for Rescue Operation and Data Acquisition
- Developed a custom search engine using natural language processing for UofM to search relevant campus information.

Publications

- **Neupane, S.**, Saha, M., Ali, N., Hnat, T., Samiei, S.A., Nandugudi, A., Almeida, D.M. and Kumar, S., 2024, May. Momentary Stressor Logging and Reflective Visualizations: Implications for Stress Management with Wearables. In Proceedings of the CHI Conference on Human Factors in Computing Systems (pp. 1-19).
- Ellis, J.D., Samiei, S., **Neupane, S.**, DuPont, C., McGill, L., Chow, P., Lanzkron, S., Haythornthwaite, J., Campbell, C.M., Kumar, S. and Finan, P.H., 2024. Sleep disruption moderates the daily dynamics of affect and pain in sickle cell disease. The Journal of Pain, 25(7), p.104477.

Skills

- **Programming Languages & Tools**: Python, Java, Microsoft .Net, R, SQL, LateX, Windows, Linux/Unix
- **Machine Learning**: Large Language Models (LLMs), PyTorch, Tensorflow, HuggingFace, Transformers, Scikit-learn, Linear Regression, Decision Tree, Logistic Regression, PCA, SVM,Clustering, Feature Engineering, Time-series/Sequence models, Survival Analysis
- **Data Science**: NumPy, SciPy, Pandas, Matplotlib, Seaborn, Data Visualization, Data Engineering, Statistical Analysis, Hypothesis Testing, Inference Theory, Linear mixed models, Statistical Modeling
- **Sensor Data Processing**: GPS, ECG, Accelerometer, PPG