Sameer Neupane

Email: sameerthereds@gmail.com

Mobile: +1-4049109105 | Memphis, TN

Research Interests

AI, Machine Learning, Signal Processing, Real-World Data (RWD) Modeling, Mobile & Digital Health Biomarkers and Data Visualizations

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Education

University of Memphis   Memphis, TN
Ph.D. in Computer Science   *GPA: 3.96/4.0*
Advisor: Dr. Santosh Kumar   *Aug 2018 -*

Jawaharlal Nehru Technological University Anantapur (JNTUA)   Chittor,
India *Bachelor of Technology in Electronics and Communication Engineering*   *Percentage: 78.85%*
Supervisor: Dr. Lokesh Krishna   *June 2010- June 2014*

Experience

NIH Center of Excellence for Mobile Sensor Data-to-Knowledge (MD2K)   **Memphis**, TN
Research Assistant; Advisor: Dr. Santosh Kumar   *Aug 2018 -*

- Collaborated in design of MOODS Study where participants wore a smartwatch for 100 days to report their momentary stress ratings and stressors. Designed and developed 16 different visualizations to be used in the study. Supported data collection for more than 100 participants for more than 100 days (MOODS Website).

- Demonstrated the viability 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 10% reduction in self-reported stress. (CHI 2024_preprint).

- Showcased the prevalence, diversity, and severity in 10,682 stressors and impact of demographics on their prevalence and severity to better understand challenges, opportunities for precise stress interventions.

- Filed patent for stress model deployed in MOODS Study.

- Collaborated with Researchers at John Hopkins University to conduct a field study involving opioid use in sickle-cell patients and co-authored a paper that examined effects of affect and sleep on pain among sickle-cell patients(Journal of Pain).

OpenText   **Hyderabad**, India
Senior Software Engineer   *June 2014 - May 2018*

- Developing code for the new road map items/New Feature request from the customer.
- Maintain existing code base and work on customer escalations.

School of Interdisciplinary Science and Technology   **Pune**, India
Senior Software Engineer   *June 2012 - July 2012*

- Summer Training on **Embedded System and VLSI Desing in Robotics**

Technical Skills

- **Languages:** Python, Java, R, SQL, Matlab.

- **Platforms:** Scikit-learn, Numpy, Pandas, SciPy, pySpark, PyTorch, Keras, TensorFlow

- **Machine Learning:** Logistic Regression, SVM, Clustering, Anomaly Detection, and PCA, Linear, Ridge, Lasso Regressions, Random Forest, Boosting, Time-series/Sequence models (CRF, HMM).

- **Deep Learning:** Convolutional Neural Network, Recurrent Neural Nets (LSTM, GRU), Autoencoders, Transformers.

- **Sensor Data:** GPS, ECG, Accelerometer, PPG

- **Statistical Methods:** Hypothesis testing, Inference Theory, Linear mixed models.

Certifications

- Deep Neural Networks with PyTorch (IBM and Coursera)
- Sequences, Time Series and Prediction (Deeplearning.AI)
- Deep Learning Specialization (Coursera)
- Machine Learning with Python (Coursera)
- Improving Deep Neural Networks: Hyperparameter tuning, Regularization and Optimization (Coursera)
- Structuring Machine Learning Projects (Coursera)

Recognition, Awards, and Professional Activities

- Honored with **Research Investments in Science and Engineering (RISE Fellowship)** in University of Memphis
- Honored with a fellowship program by "**MINISTRY OF EXTERNAL AFFAIRS (MEA)**" through **Indian Embassy** to pursue the 4-year course in Bachelor of Technology in Electronics and Communication Engineering
- Honored with "**MAHATMA GANDHI SCHOLARSHIP**" by **Indian Embassy** in 2007
- **Physics Olympiad Finalists** (Nepal) in 2008

Leadership and Voluntary Experiences

- Organizer of Grand Science Exhibition (Kathmandu) organized by "Science for Development"
- Member of DOST team(OpenText) which conducts various CSR activities in Hyderabad which include Blood Donation campaigns and teaching primary students in a local school
- Mentoring Experience: Mentored 2 Ph.D. students in their research and 3 software interns in their project
- Transdisciplinary collaboration with **computing researchers** from Ohio State, Georgia Tech, UMass, and **health/behavioral researchers** from John Hopkins, Minnesota Medical School, and Penn State.