

Shivin Thukral

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EDUCATION

University of Washington, Seattle, WA

Masters of Science in Computational Linguistics (Natural Language Processing)

Sep 2020 – Present

GPA: 3.97 / 4.00

Relevant Coursework: Deep Learning for NLP, Statistical Methods for NLP, Artificial Intelligence (through Winter), Machine Learning (through Spring)

Birla Institute of Technology and Science, Pilani, India

Bachelors of Engineering (Hons) in Computer Science

Masters of Science (Hons) in Mathematics

Aug 2015 – Jun 2020

GPA: 8.31 / 10.0

Relevant Coursework: Machine Learning, Deep Learning, Artificial Intelligence, Data Mining, Information Retrieval, Data Structures and Algorithms, Database Management Systems, Probability and Statistics

WORK EXPERIENCE

Avnio, Remote

Machine Learning Engineer (Consultant)

Sep 2020 – Sep 2021

- Engineered an XLNet-based model that parses large RFP documents to detect questions with 95% accuracy
- Deployed the Python-based text-classification model into production on a web server using Flask RESTful APIs
- Refined existing model for Semantic Search of a query over knowledge base and reduced error rate by around 80%

HWSaver LLP, Remote

Deep Learning Intern

Jun 2020 – Dec 2020

- Deployed a sequence-to-sequence model using LSTMs in PyTorch for solving math word problems
- Model was able to solve word problems and predicted target equations with over 70% accuracy
- Designed a retrieval model to be used in search engine for querying over questions containing LaTeX formatted text

Samsung Research Institute, New Delhi, India

Software Development Intern (Speech Processing)

Jan 2020 – Jun 2020

- Worked on development of robust Automatic Speech Verification (ASV) systems for commercial deployment
- Implemented deep learning frameworks (ANNs/RNNs) to develop countermeasures in Python reaching an EER of 5%

Institute for Natural Language Processing, University of Stuttgart, Stuttgart, Germany

NLP Research Intern

Jul 2019 – Dec 2019

- Explored the presence of cultural information in multilingual BERT word embeddings using t-SNE and linear regression
- Collected and filtered over 8000 data points via crowdsourcing in multiple languages for modeling culture-specific data

PUBLICATIONS & RESEARCH PROJECTS

Multilingual Unsupervised Sequence Segmentation transfers to Extremely Low-resource Languages, pre-print (under review)

C.M. Downey, Shannon Drizin*, Levon Haroutunian*, **Shivin Thukral***

Oct 2021

- Analyzed the segmentation performance of a pre-trained multilingual SLM when transferred to a low-resource language
- Multilingual model achieves zero-shot segmentation of 20.6 F1 on low-resource target and beats monolingual baseline

Probing Language Models for Understanding of Temporal Expressions, BlackboxNLP (EMNLP 2021)

Shivin Thukral, Kunal Kukreja, Christian Kavouras

Sep 2021

- Probed pre-trained transformer-based language models (RoBERTa, BERT) on NLI datasets
- Presented three datasets that test different temporal properties and display gaps in temporal understanding of NLI models

Detection of Malicious Android Applications: Classical Machine Learning vs. Deep Neural Network Integrated with Clustering, Broadband Communications, Networks, and Systems 2020 (Springer International Publishing)

Hemant Rathore, Sanjay K. Sahay, **Shivin Thukral**, Mohit Sewak

Feb 2021

- Performed data exploration, feature extraction, and clustering techniques for a thorough analysis of opcodes dataset
- Modeled traditional machine learning methods (random forests) and deep neural networks achieving up to 95% accuracy

SKILLS & OTHERS

Programming: Proficient in Python and C++, Familiar with Java, SQL, and JavaScript.

Libraries: huggingface, PyTorch, TensorFlow, pandas, NumPy, scikit-learn, NLTK, SpaCy

Tools: Latex, Git, Linux Shell, Jupyter, Excel

Certifications: Natural Language Processing Specialization (DeepLearning.AI), CUDA and Deep Learning Training (NVIDIA)

LEADERSHIP & HONORS

- Acted as the Infrastructure Head for college events, leading over 60 members in setting up light/sound infrastructure
- Awarded the INSPIRE scholarship for being the top 1% scorer in ISC examination among 70,000 students