Kumar Shridhar

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WORK EXPERIENCE

Oct '20 - Present	Scientific Researcher at **ETH Zürich** • Working with Prof. Mrinmaya Sachan towards designing a unified learning models that combines external memories with implicit attention.
May '20 - Sep '20	ESoWC Summer of Weather Code at **European Centre for Medium-Range Weather Forecasts** • Used Gaussian Mixture models to predict (and correct) the time-varying bias and uncertainties associated with the air quality monitoring stations data.
Jan '20 - May '20	Student Researcher at **Deutsches Forschungszentrum für Künstliche Intelligenz (DFKI)** • Proposed a Probabilistic Activation Function for Deep Neural Networks that acts as a stochastic regularizer to prevent overfitting and improves the generalization capabilities of the network. ArXiv
Oct '18- Dec '19	Lead Researcher at **BotSupply, Denmark** • Lead the Natural Language Processing team at BotSupply and designed the bot NLP platform that powers all the customers' chatbots at BotSupply. (over 1 million interactions).
Jan '18- Sep '18	Research Assistant at **Insiders Technologies GmbH, Germany** • Worked with Ovation Machine Learning team and designed Intent Classification and Entity Extraction algorithms that can perform well with scarce datasets.

EDUCATION

Apr '16 - June '20	*Masters in Computer Science, University of Kaiserslautern* **Specialization**: Machine Learning, **Minor**: Pyschology **Masters Thesis**: Bayesian Convolutional Neural Network with Variational Inference. ArXiv
Apr '19 - June '19	*Visiting Student, Kyushu University, Japan* **Supervisor**: Prof. Seiichi Uchida, Uchida Lab
Jan '19 - Mar '19	*Visiting Student, Luleå University, Sweden* **Supervisor**: Prof. Marcus Liwicki, EISLab Sweden

TECHNICAL SKILLS

Programming	Python (projects over 1k ⋆ on GitHub), HTML, CSS
Technologies	PyTorch, Tensorflow, Amazon AWS, Google Cloud Platform (GCP), SciPy, NumPy, scikit-learn, FastText, NLTK, RASA, SpaCy, UNIX, Flask, FastAPI, Docker, Git, LaTeX, Jupyter Notebook
Operating System	Linux (Ubuntu), Mac

Awards

- Google Cloud research credits worth 5k USD.
- Kaggle Top 1% : Rank 5 in Plant Seedling Identification challenge.
- Medium Top Writer – Artificial Intelligence (Over 300K reads)
- Member of IBM Award Winner 2017 Team at BotSupply

Selected Publications

SustaiNLP @ EMNLP '20	**Kumar Shridhar***, Harshil Jain*, Akshat Agarwal*, Denis Kleyko (2020) End to End Binarized Neural Networks for Text Classification
ML-RSA @ NeurIPS '20	Kushal Jain, Adwait Deshpande, **Kumar Shridhar**, Felix Laumann, Ayushman Dash (2020) Indic-Transformers: An Analysis of Transformer Language Models for Indian Languages
PML4DC @ ICLR '20	Pedro Alonso*, **Kumar Shridhar***, Denis Kleyko* , Evgeny Osipov, Marcus Liwicki (2019). HyperEmbed: Trade-off Between Resources and Performance in NLP Tasks with Hyperdimensional Computing-based embedding of n-gram statistics
OPT'20 @ NeurIPS '20	**Kumar Shridhar** , Joonho Lee, Hideaki Hayashi, Brian Kenji Iwana, Seokjun Kang, Seiichi Uchida (2019). ProbAct: A Probabilistic Activation Function for Deep Neural Networks
IJCNN '19 Oral	**Kumar Shridhar**, Amit Sahu, Ayushman Dash, Pedro Alonso, Gustav Pihlgren, Vinay Pondeknath, Gyorgy Kovacs, Fotini Simistira, Marcus Liwicki (2018). Subword Semantic Hashing for Intent Classification on Small Datasets

Major Projects

Relative Performers	Introduced Relative Positional Encodings into the kernel-approximation based method of efficient transformer variants to induce translational equivariance properties in them. We further demonstrate the benefits towards improving robustness and generalization to image translations.
Online Toxicity Detection	Developed an application that detects toxicity (rude, disrespectful, or profane comment) in an online conversation (YouTube comments). We used cross-lingual sentence encoder network (XLM-ROBERTa) and trained it on Jigsaw/Conversation AI dataset along with YouTube scraped comments. Code ; Blog

Languages

English:	Expert (TOEFL '16)
Hindi:	Native Language
German:	Intermediate (B1 '17)

Volunteer Experience

Sep '19 - Present	Reviewer : ICLR '20, '21, NeurIPS '20, AAAI '21
May '17 - Apr '18	Host: Chatbot Meetups Copenhagen, Denmark
Jan '15 - Jan '16	Humanitarian Volunteer - *Ashaavan Educational and Welfare Society*