

Kumar Shridhar

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EDUCATION

JAN '21 - JULY '24	<i>PhD in Computer Science, ETH Zürich</i> Specialization: Machine Learning, NLP, Explainable AI Supervisor: Prof. Mrinmaya Sachan
APR '16 - JUNE '20	<i>Masters in Computer Science, University of Kaiserslautern</i> Specialization: Machine Learning, Minor: Psychology Masters Thesis: Bayesian Convolutional Neural Network with Variational Inference

SELECTED PUBLICATIONS

UNDER REVIEW	Using knowledge from data as constraints in neural NLP models: We propose a novel optimisation scheme to leverage knowledge from the data samples to put explicit constraints on the output space of a model. (Kumar Shridhar & others.)
UNDER REVIEW	Adversarial approach to train VAEs: We propose an adversarial training strategy to achieve information-based stochastic dropout for training VAEs. (Kumar Shridhar & others.)
UNDER REVIEW	Scaling OntoNotes to Longer Coreference Chains: We merge the annotations from documents that were split into multiple parts in the Ontonotes data and discuss scaling of coref models to larger documents. (Kumar Shridhar & others.)
UNDER REVIEW	Teaching NLP models mathematical concepts: We propose ways to incorporate mathematical reasoning abilities in large language models. (Kumar Shridhar & others.)
ACL '21 FINDINGS	Scaling Within Document Coreference to Long Texts Raghuv eer Thirukovalluru, Nicholas Monath, Kumar Shridhar, Manzil Zaheer, Mrinmaya Sachan and Andrew McCallum (2021)
SUSTAINLP @ EMNLP '20	End to End Binarized Neural Networks for Text Classification Kumar Shridhar*, Harshil Jain*, Akshat Agarwal*, Denis Kleyko (2020)
PML4DC @ ICLR '20	HyperEmbed: Trade-off Between Resources and Performance in NLP Tasks with Hyperdimensional Computing-based embedding of n-gram statistics Pedro Alonso*, Kumar Shridhar*, Denis Kleyko*, Evgeny Osipov, Marcus Liwicki (2019)
IJCNN '19 ORAL	Subword Semantic Hashing for Intent Classification on Small Datasets Kumar Shridhar, Amit Sahu, Ayushman Dash, Pedro Alonso, Gustav Pihlgren, Vinay Pondeknath, Gyorgy Kovacs, Fotini Simistira, Marcus Liwicki (2018)

WORK EXPERIENCE

MAY '21 - AUG '21	Applied Research Intern at Amazon Alexa AI <ul style="list-style-type: none">• Worked on a constrained optimization formulation for training a deep neural network with a set of hard constraints on output labels.
JAN '20 - MAY '20	Student Researcher at Deutsches Forschungszentrum für Künstliche Intelligenz (DFKI) <ul style="list-style-type: none">• 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 <ul style="list-style-type: none">• 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 <ul style="list-style-type: none">• Worked with Ovation Machine Learning team and designed Intent Classification and Entity Extraction algorithms that can perform well with scarce datasets.

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.
- Contributed to the BIG-bench task to understand the capabilities of large LMs.
- Medium Top Writer – Artificial Intelligence (Over 300K reads)
- Member of IBM Award Winner 2017 Team at BotSupply

LANGUAGES

ENGLISH:	Expert (TOEFL '16)
HINDI:	Native Language
GERMAN:	Intermediate (B1 '17)

VOLUNTEER EXPERIENCE

SEP '19 - PRESENT	Reviewer : ICLR '20, '21, '22, NeurIPS '20, '22, EMNLP '22, AAAI '21
JAN '20 - JUNE '20	Reviewer : Advanced Natural Language Processing with TensorFlow
MAY '17 - APR '18	Host: Chatbot Meetups Copenhagen, Denmark
JAN '15 - JAN '16	Humanitarian Volunteer - <i>Ashaavan Educational and Welfare Society</i>