

Kumar Shridhar

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EDUCATION

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| AUG '21 - DEC '24 | <i>PhD in Computer Science, ETH Zürich</i>
Specialization: Machine Learning, NLP in Education
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

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| NEURIPS '22 | Learning to Drop Out: An Adversarial Approach to Training Sequence VAEs : We propose an adversarial training strategy to achieve information-based stochastic dropout for training VAEs better. Djordje Miladinovic*, Kumar Shridhar* , Kushal Jain, Max Paulus, Joachim Buhmann & Carl Allen |
| UNDER REVIEW | Teaching NLP models mathematical concepts : We propose ways to incorporate mathematical reasoning abilities in large language models. (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 | A Causal Framework to Quantify Model Robustness of Mathematical Reasoners : Through a causal lens, we study what factors influence the decision making capabilities of large language models on mathematical reasoning problems. (others & Kumar Shridhar .) |
| ACL '21 FINDINGS | Scaling Within Document Coreference to Long Texts
Raghuveer 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) |

WORK EXPERIENCE

MAY '20 - AUG '20	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>