SHAILZA JOLLY

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EDUCATION

TU Kaiserslautern Germany March 2019 - Present
P.hD. in Computer Science
Working at the intersection of computer vision and natural language understanding. The main goal is to improve controlled natural language generation in context of Visual Question answering and Conversational agents.

TU Kaiserslautern, Germany October 2016 - March 2019
MSc. in Computer Science | Minor in Economics
Thesis: An Evaluation Look at the Evaluation of VQA: The wisdom of MASSeS **(Grade: 1.0)**
Overall grade: **"Sehr Gut" 1.5** (1.0 is highest on 1.0 - 5.0 scale)

Guru Nanak Dev Engineering College, India August 2012 - July 2016
B.Tech in Computer Science & Engineering

EXPERIENCE

Deutsche Forschungszentrum für Künstliche Intelligenz Gmbh March 2019 - Present
Research Assistant *Kaiserslautern, Germany*

· Working on BMBF funded project Deep Fusion for Neural Networks (DeFuseNN) in the area of understanding vision and language systems.

Amazon Alexa August 2019 - December 2019
Applied Scientist Intern *Aachen, Germany*

· Worked on Natural Language Generation in context of paraphrasing. Improved NLU systems with data augmentation. Work accepted at COLING 2020.

Deep Learning Research Center, SAP Berlin May 2018 - February 2019
Research Intern/ Master Thesis *Berlin, Germany*

· Evaluated various architectures of VQA models for Interpretability and domain adaptation.
· Designed an evaluation metric, called MaSSeS, for VQA models which account for majority voting, subjectivity and semantic similarity of human responses.

Human Interface Laboratory, Kyushu University November 2017 - February 2018
Research Intern *Fukuoka, Japan*

· Worked on project "Explainable AI". Used Layer-wise Relevance Propagation (LRP) to analyze the behavior of deep CNN architectures for image recognition.
· Used object and text detection methods like single shot multibox detector to quantitatively enforce relevance results by LRP on the task of book cover image classification.

Deutsche Forschungszentrum für Künstliche Intelligenz Gmbh February 2017 - 2018
Student Research Assistant *Kaiserslautern, Germany*

· Worked on social network analysis for continuous monitoring of corporate Twitter accounts.
· Used deep CNN models to classify the corporate accounts based on the profile images; fetched, stored and analyzed the Twitter data.

Karlsruhe Institute of Technology January 2016 - July 2016
Research Intern *Karlsruhe, Germany*

· Worked on graph mining in provenance graphs for discovering duplicate and frequent patterns in scientific workflows to improve their efficiency.
· Evaluated various existing graph mining algorithms for provenance graphs.

GNDEC Data Science June 2014 - August 2014
Research Intern *Ludhiana, India*

· Applied machine learning techniques to develop real estate price prediction software.
· Implemented visualization module using ggplot package in R.

SKILLS

Natural Languages	English(Fluent), German(Beginner), Hindi(Native)
Computer Languages	Python, NumPy/SciPy, PyTorch, Matlab, R, Octave
Databases	MongoDB
Other Tools	MS Office, LaTeX

PUBLICATIONS

Jolly, S., Falke, T., Tirkaz, C., Sorokin, D., 2020. Data-Efficient Paraphrase Generation to Bootstrap Intent Classification and Slot Labeling for New Features in Task-Oriented Dialog Systems. In COLING 2020.

Jolly, S., Kapoor, S., 2020. Can Pre-training help VQA with Lexical Variations? In Findings of EMNLP 2020.

Jolly, S., Palacio, S., Folz, J., Raue, F., Hees, J. and Dengel, A., 2020. P $\approx$ NP, at least in Visual Question Answering. In International Conference on Pattern Recognition (ICPR), 2020.

Jolly, S., Pezzelle, S., Klein, T., Dengel, A. and Nabi, M., 2018. The Wisdom of MaSSeS: Majority, Subjectivity, and Semantic Similarity in the Evaluation of VQA. arXiv preprint arXiv:1809.04344.

Jolly, S., Pezzelle, S., Klein, T., Dengel, A. and Nabi, M. An Evaluation Look at the Evaluation of VQA. Abstract presentation at Workshop on Shortcomings in Vision and Language, European Conference on Computer Vision, 2018

[**Best Student Paper**] **Jolly, S.**, Iwana, B.K., Kuroki, R. and Uchida, S., 2018, August. How do Convolutional Neural Networks Learn Design?. In 2018 24th International Conference on Pattern Recognition (ICPR) (pp. 1085-1090). IEEE.

ACADEMIC ACHIEVEMENTS

Program Committee Member	First Workshop on ALVR at ACL 2020
Poster Presentation	Amazon AI Research Colloquium, Cambridge UK
3rd position	TextVQA challenge at ICDAR, 2019
Ph.D. Research Fellowship	TU Kaiserslautern (2019-2023) (EUR 24,000/year)
Pre-Doctoral School	MPI, Tuebingen, Germany
Best Student Paper Award	ICPR 2018, Beijing (USD 500)
Travel Grant	Deep Learning Summer School, Bilbao (EUR 1,000)
Among top 5 % of batch	Bachelors of Technology in Computer Science
Academic Scholarship	All India Secondary School Exam. (INR 10,000)
Among top 0.1% students	National level Class 10 Maths Exam (A1 Grade)