

# SHAILZA JOLLY

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## EDUCATION

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### **TU Kaiserslautern and DFKI Gmbh**

March 2019 - Present

*P.h.D. 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

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### **Amazon Alexa**

August 2019 - December 2019

*Applied Scientist Intern*

*Aachen, Germany*

- Worked on controlled natural language generation in context of paraphrasing.

### **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.

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

## RELEVANT COURSEWORK

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### Graduate:

1. Very Deep Learning
2. Applications of Artificial Intelligence
3. Human Computer Interaction
4. Biologically Motivated Robots
5. Multimedia Data Mining
6. Document Content Analysis

### Independent:

1. CNNs for Visual Recognition (Stanford Online)
2. Machine Learning (Stanford Online)
3. Data Science with R (Coursera)
4. Natural Language Processing with Deep Learning (CS224n)

## SKILLS

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

## PUBLICATIONS

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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

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