

# Jishnu Jayaraj



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## Work experience

08/2020 – 02/2021

### Master thesis at Rokin Tech, Munich

- Analyzing the data by using appropriate Statistical models.
- Development of a mathematical language model for semantic classification of text data.
- Developed a strategy for trend detection from a large number of news articles.

04/2020 – 08/2020

### Intern at Rokin Tech, Munich

- Design and implement a data pre-processing and data analysis pipeline of web-crawled data to ensure data quality and consistency.
- Experience in Text Analytics, developing different Statistical Machine Learning, Data Mining solutions to various business problems and generating data visualizations
- Applied data augmentation and transfer learning techniques to create task specific language models.

10/2018 – 12/2019

### Working student in Siemens Healthineers

- Development of a deep neural network architecture for classifying web page elements based on HTML properties.
- Deploying a message broker cluster in a cloud computing platform using bash scripting.

## Academic credentials

10/2017 – 03/2021

### Master-of-Science in Computational Engineering

Friedrich- Alexander-Universität (Erlangen-Nürnberg, Germany)

- Grade: 1,9 / 4
- Focus: Simulation, Machine learning, Parallel computing

06/2012 – 05/2016

### Bachelor-of-Technology in Mechanical Engineering

Govt. Engineering College Palakkad (Kerala, India)

- Grade: 7,9 / 10
- Focus: Thermodynamics, 3D designing, Material science

## Projects

### Trend Detection Algorithm

- Designed and developed deep learning NLP model to extract and analyze trends from large scale text data.
- Applied transfer learning and Fine tuning for optimal performance of transformer model.

- Improved accuracy of unsupervised technique using data augmentation.

### Traffic Signal Classification

- Trained a model that can predict traffic signals from image data.
- Applied pre-trained model from torchvision and finetuned with traffic signal dataset.
- Ability to classify unseen images.

### ECG Anomaly Detection

- Developed an algorithm to classify ECG data and track anomalies.
- Build an LSTM encoder with Pytorch.
- Train and evaluate the model with ECG dataset.

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## Skills

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### Machine Learning

Probability theories  
Statistical modeling  
Data Visualization

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### Data mining

Data analytics  
Data structures  
Pandas ,SQL sklearn

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### Programming

Python, C/C++,  
Linux shell, CUDA  
GPU computing,  
tensorflow, Pytorch

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### Deep Learning

Natural Language  
Processing, Computer  
Vision, Time series,  
Predictive Analysis

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### Project Management

Agile environment  
Scrum process, Slack  
Jira/Confluence  
Git/Github

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### Cloud computing

Platform expertise in  
AWS, GCP  
Authentication using  
ssh

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## Reference

Thomas Kinkeldei: Co-Founder Rokin GmbH München, Deutschland

✉ [thomas.kinkeldei@rokin.tech](mailto:thomas.kinkeldei@rokin.tech)

Prof. Dr.-Ing.Leeju Chirayath: Professor in GEC Palakkad College, India

✉ [cj.leeju@gmail.com](mailto:cj.leeju@gmail.com)



Jishnu Jayaraj, Erlangen

# Summary

## Career objective

My goal is to constantly expand my knowledge and strengths in order to contribute to the success of research and development projects. Software engineering has been my great passion for several years. After acquiring various skills through university and industry projects, I would like to develop efficient and effective technologies to improve user and customer experience.

## Professional focus

- Software Engineering
- Research & Development
- Artificial Intelligence
- Agile Methodology
- Data and image processing
- Parallel computing
- Mathematics
- Digitalization and Innovation
- Natural Language Processing

## Core competencies

- **Problem Solving:** Ability to translate user requirements into product specifications for hardware and software development in collaboration with application specialists.
- **Attention to detail:** being a student from multidisciplinary course, I have the experience in handling multidisciplinary projects and processes, researching solutions, designing systems and implementation.
- **Experience with research processes:** collecting data, experimenting, and analyzing results, preparing, documenting, and organizing all research material.
- **Organizational Skills:** As an intern at ROKIN, I was required to manage a wide range of tasks, with ease in keeping track of changing metrics and shifting requirements for specific tasks.

## Personal strengths

- Adaptability
- Creativity
- Reliability
- Problem solving
- Analytical thinking
- Motivation to learn

## Hobbies and Interests

Mountain biking	Plan and execute team-based mountain biking excursions with friends.
Community service	Actively volunteer at local calisthenics group for workout and street cleaning.
Gaming	A tool for de-stress and also a online team building activity.
Languages	English – Advanced(C1) ; German – Intermediate (B1)