

TUAN TRAN

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SUMMARY

I am an applied scientist and software engineer with 10+ years of mixed experience of both research and hands-on AI in Natural Language Processing, Knowledge Graphs, Computer Vision (focus Autonomous Driving).

PREVIOUS WORK EXPERIENCE

Software Engineer - Machine Learning

Meta Platforms

Feb 2023 - present

Stuttgart (remote), Germany

Senior Expert (Staff Level 1)

Robert Bosch GmbH — Mobility Solutions

Nov 2022 - Feb 2023

Stuttgart, Germany

- Contributed to AI strategy for powertrain solutions, focusing on evaluation and explainability
- Designed and developed end-to-end pipeline for repair orders analytics, connected with OEM portal. Support customer buy-in with ML explainer modules
- Keywords: PowerBI, classification, SHAP, Q8 root cause analysis

Technical Lead

Robert Bosch GmbH — Global Services division

Sep 2020 - Oct 2022

Stuttgart, Germany

- Lead engineering team to build an end-to-end ML pipeline in hybrid infrastructure, reducing the processing time of customer requirements to **85%** using hybrid models (NLP, Near-Duplicate Detection, rule-based classifiers).
- Work with production team to streamline models from in-house GPU cluster to AWS EKS for 3 customers.
- Support product owner and project leader in talk with stakeholders, help grow team (3 in 2019 to 11 in 2022).
- Keywords: NLP, MLOps, Seldon, AWS, in-house language model fine-tuning

Senior R&D Engineer

Robert Bosch GmbH — Mobility Solutions

Jan 2020 - Oct 2022

Abstatt, Germany

- Developed Minimal Viable Products with autonomous driving team for internal use cases:
 - Plant Data Analysis: Processed 100 TB measurement data from factory plants, integrated into an in-house dashboard (Keywords: Qlik Sense, Cloudera, Impala, Spark, Outlier detection).
 - Road Sign Recognition: Processed public and internal data (28 countries), developed retrieval and augmentation service for an in-house labelling tool that led to **13%** model improvement (Keywords: Crowdsourcing, RSR, variational prototyping-encoder, HPC).
 - Scene AI: Led research in multi-agent trajectory prediction in urban driving scenarios (Methods: multimodal GNNs, self-supervised learning)
- Contribute to publicly-funded project [KI-Wissen](#) (Work package 1.4 - Knowledge extraction).
- Collaborate with corporate research: 4 internal reports, 1 patent application, 5 peer-reviewed publications.

Interim Sub-project Leader, Product Owner

Robert Bosch GmbH — Mobility Solutions

Jan 2020 - August 2020

Abstatt, Stuttgart, Germany

- Led an internal incubation project to improve the V-model process with ML, defined roadmap with cross-functional teams, architected the solutions and support customer buy-in.
- Won 3-year funding for a corporate top-level project, adding 3 more headcounts for the department.

Development Engineer

Robert Bosch GmbH — Mobility Solutions

Sep 2017 - December 2019

Abstatt, Germany

- Re-implemented the video data decoder, contributed to the semantic search functions of the internal data lake (Keywords: Java, Elasticsearch, Stardog, ROS)
- Project Brake Quality: Developed AI model to classify brake quality from test bench data with **80%** accuracy using gradient boosting. Re-implemented the brake data parser (D97) and supported system engineering team to integrate the model into car prototype (converting Python codes to ASCET).

Research Intern
IBM Research

Jun 2016 - Sep 2016
Dublin, Ireland

- Extracted decision elements from meeting transcripts (project [Debater](#))

Research Software Engineer
L3S Research Center

Aug 2011 - Aug 2017
Hannover, Germany

- [Qualimaster](#): Processed finance data, implemented backfilled topic detector using Twitter hashtags as labels (Keywords: Apache Storm,
- [ForgetIT](#): Built a data retention policy for enterprise documents using graphical models
- [GLOCAL](#)): Parsed video metadata and integrated into topic modelling components

Freelancer Software Engineer
SaltLux

Oct 2008 - Feb 2009
Seoul, Südkorea

- Wrote Java-based induction wrapper to extract information from Korean blogs

Backend Software Developer
Viet Intelligences

Apr 2008 - Oct 2008
Hanoi, Vietnam

- Developed J2EE-based CMS system for Vietnam Ministry of Finance

EXTRACURRICULAR ACTIVITIES

- 2021 Member of Bosch Developer Advocate Network - DAN (gave internal tech talks & tutorials)
- 2020 Participated in [nuScenes prediction challenge](#) (top 4 finalists)
- 2016 Presented project results in [CeBIT expo](#)
- 2016 External reviewer [WSDM 2016](#)

SKILLS

Languages	Python, Java, C++, Bash, Hack, SQL
Platforms	Linux, Hadoop, AWS, HPC
Non-technical Skills	Agile (Scrum, SAFe), project management, team coordination

EDUCATION

Leibniz University Hannover

Hannover, Germany
August 2018

Doctor of Natural Sciences (Dr.rer.nat) — Magna cum laude

- Topic: Natural Language Processing & Knowledge Graph

Saarland University, Max Planck Institute for Informatics

Saarbrücken, Germany
May 2011

Master of Computer Science — Graduated with Distinction (Grade: 1.3)

- International Max Planck Research School Master Fellowship
- Relevant Courses: Database, Artificial Intelligence, Software Engineering, Large-scale Graphs, Practical Security

Hanoi University of Science and Technology

Hanoi, Vietnam
May 2008

Bachelor of Engineering — Graduated with Excellence (Grade: 8.9 / 10)

- Excellent student research award
- Major: Computer Science (Information Systems)

SELECTED PUBLICATIONS (in industry time. See [Google Scholar](#) for publications during PhD time)

- 2023 **IPCC-TP: Utilizing Incremental Pearson Correlation Coefficient for Joint Multi-Agent Trajectory Prediction**, IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR). Dekai Zhu, Guangyao Zhai, Yan Di, Fabian Manhardt, Hendrik Berkemeyer, **Tuan Tran**, Nassir Navab, Federico Tombari, Benjamin Busam.
- 2022 **System and Method for Road Sign Ground Truth Construction with a Knowledge Graph and Machine Learning**, US Patent App. 17/004,133. (See [arXiv paper](#))
Ji-Eun Kim, Cory Henson, Kevin Huang, **Tuan Tran**, Wan-Yi Lin.
- 2021 **Feasible and Adaptive Multimodal Trajectory Prediction with Semantic Maneuver Fusion**, IEEE International Conference on Robotics and Automation (ICRA) ([link](#)).
Hendrik Berkemeyer, Riccardo Franceschini, **Tuan Tran**, Lin Che, Gordon Pipa.
- 2019 **Using Knowledge Graphs to Search an Enterprise Data Lake**, European Semantic Web Conference (ESWC) ([link](#)). Stefan Schmid, Cory Henson, **Tuan Tran**.
- 2018 **A Trio Neural Model for Dynamic Entity Relatedness Ranking**, SIGNLL Conference on Computational Natural Language Learning (CoNLL) ([link](#)). Tu Ngoc Nguyen, **Tuan Tran**, Wolfgang Nejdl.

LANGUAGE PROFICIENCY

Vietnamese (*native*) English (*business fluent*) German (*good*)