TUAN A. TRAN

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SUMMARY

I am an R&D engineer and technical lead with 10+ years of experience in software engineering and applied AI research (Natural Language Processing - NLP, Knowledge Graph, Autonomous Driving). I am currently seeking a full-time senior role in data science and machine learning in a company with big industry impact.

EDUCATION

Leibniz University Hannover *Hannover, Germany*
Doctor of Natural Sciences (Dr.rer.nat) — Magna cum lauda *August 2018*

- Topic: Natural Language Processing & Knowledge Graph

Saarland University, Max Planck Institute for Informatics *Saarbrücken, Germany*
Master of Computer Science — Graduated with Distinction (Grade: 1.3) *May 2011*

- 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*
Bachelor of Engineering — Graduated with Excellence (Grade: 8.9 / 10) *May 2008*

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

High School for Gifted Students, Hanoi University of Science *Hanoi, Vietnam*
High school Diploma — Graduated with Excellence (Grade: 54 / 60) *May 2003*

- Member of National Mathematics Olympiad team

WORK EXPERIENCE

Technical Lead September 2020 - present
Robert Bosch GmbH — Global Services division *Stuttgart, Germany*

- Lead engineering team to build a ML system that reduced processing time of customer requirements to **85%** using hybrid models (NLP, Near-Duplicate Detection, rule-based classifiers).
- Work with DevOps team to streamline models from in-house GPU cluster to AWS EKS for 3 customers.
- Build backbone model using different data via Language Model fine-tuning techniques
- Support product owner and project leader in talk with stakeholders, help grow team (3 in 2019 to 11 in 2022).

Senior R&D Engineer Jan 2020 - present
Robert Bosch GmbH — Mobility Solutions *Abstatt, Germany*

- Developed Minimal Viable Products with autonomous driving team for internal use cases:
  - Brake Analysis: Processed 100 TB measure data to allow visualization in in-house dashboard (QlikSense).
  - 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.
- 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 Jan 2020 - August 2020
Robert Bosch GmbH —Mobility Solutions *Abstatt, Stuttgart, Germany*

- Led an internal incubation project, defined roadmap with cross-functional teams, successfully integrated to a corporate top-level project, adding 3 more headcounts for the department.

Development Engineer   Sep 2017 - December 2019
Robert Bosch GmbH — Mobility Solutions   *Abstatt, Germany*

- Developed ETL to process internal video data; built semantic search functions (ElasticSearch, Stardog)
- Developed AI model to classify brake quality from test bench data with 80% accuracy using gradient boosting.

Research Intern   Jun 2016 - Sep 2016
IBM Research   *Dublin, Ireland*

- Extracted decision elements from meeting transcripts (project Debater)

Research Software Engineer   Aug 2011 - Aug 2017
L3S Research Center   *Hannover, Germany*

- Worked in 3 EU research projects (Qualimaster, ForgetIT, GLOCAL)

Freelancer Software Engineer   Oct 2008 - Feb 2009
SaltLux   *Seoul, Südkorea*

Backend Software Developer   Apr 2008 - Oct 2008
Viet Intelligences   *Hanoi, Vietnam*

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
2013	External reviewer RecSys 2013

SKILLS

Languages	Python, Java, Go, Bash, SQL
Platforms	Linux, Hadoop, AWS, HPC
AI & Deep Learning	Scikit, xgboost, Pytorch, HuggingFace, spaCy
DevOps & MLOps	Docker, Github Actions, MLFlow, Seldon, DVC
Automotive process	V-Model (ASPICE), Functional safety standards (IEC 61508, ISO 26262)
Soft Skills	Agile (Scrum, SAFe), leadership (SCARF, situational), project management

SELECTED PUBLICATIONS (since 2018 - See Google Scholar for publications during PhD)

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**,The 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*)