Tollef Emil Jørgensen

Education

2021-2025 **PhD. Computer Science**, *NTNU*, *Data and artificial intelligence*

PhD candidate in the MEGAS project (Metadata Generation for Auto-transcribed Speech), part of SCRIBE: `https://scribe-project.github.io/`.
Title: Resource-Efficient Metadata Generation and Summarization for Conversational Natural Language.
Teaching: TDT4310 — Intelligent Text Analytics and Language Understanding
8 accepted papers at international conferences and journals. Main research topics:
○ Language modeling, LLMs, and RAG system integrations
○ Summarization (from large document collections to single-sentence reduction)
○ Semantic applications (embeddings, vector databases, search and retrieval)
○ Coreference resolution and named entity recognition (data sources for Norwegian)

2015-2020 **MSc. Computer Science**, *NTNU*, *Thesis grade: A*

Specialized in database- and search systems. Master thesis on Artificial Intelligence and Natural Language Processing. Nominated for the top 10 AI theses at the university (`https://www.ntnu.edu/ailab/ai-awards-2020`).

2014-2015 **Electronic system design and innovation**, *NTNU*

Job experience

2020-2021 **Software Engineer / Consultant**, *Capgemini*, Trondheim
○ API for Norway's Road Authority. Tasks: administration and development of online road services. **Java**. URL: `https://www.vegdata.no/nvdb-api-les/`
○ Automated Ad management software. Fullstack **Typescript** with **Node** and **Mongodb**.
○ Sensor data representation and interactive maps with security-focused features for file sharing (Norway's Road Authority). Full-stack **Java** with **Spring Boot**. Responsible for all pipeline parts: front-end, UX, backend, and security. URL: `https://delutb-ext.atlas.vegvesen.no/`

2019-2020 **Software developer**, *Strise*, Trondheim

SaaS development: Scala backend, GraphQL-tooling, React.js+TS // Part-time full stack

2018-2019 **Full stack**, *Dexternal*, Trondheim

Web and Firebase dev for a PoC decentralized exchange system.

2018-2019 **Software developer**, *Cloud Insurance*, Oslo

Part-time Vue.js developer

2018	**Software developer**, *Cloud Insurance (internship)*, Oslo
	Insurtech. Fullstack Vue.js/PHP
2017	**System developer**, *Skagen Fondene (internship)*, Stavanger
	Experimenting with machine learning, finance, document sentiment analysis and information retrieval with OpenCV/TensorFlow.
2011-2013	**Sole proprietor**, *Tollef Jørgensen IT-services*, Harstad
	General computer service and other freelance work.
2011-2012	**Maintaining data park**, *Harstad Traffic School*, Harstad
	Computer services and server maintenance. Step-in secretary work.
2010	**IT consultant**, *IKT-1*, Haugesund
	Server administration and maintaining data parks in several offices. Support and troubleshooting.

University and other projects

2017-2020	**Web developer**, *Studentersamfundet i Trondhjem*
	Development of `www.samfundet.no` and in-house systems in Ruby-on-Rails and React.
2017-2018	**Business manager**, *XCOM18 Computer Science Field Trip*
	Managed business relations and meetings with Japanese corporations for a field trip to Tokyo, Japan, for over 100 Computer Science students.
2015-2017	**Assistant**, *Web development, Software development, Programming Lab 2, Java, Electronics system design and analysis 1*
2015-2016	**Software developer**, *Revolve NTNU, Team 2016*
	From scratch analysis software to interface with CANBUS-signals for an electric race car
2014-2015	**System developer**, *Sct. Omega Broderskab*, University Student Society
	Database management for `www.omega.ntnu.no` and development of smaller systems.

Skills

Keywords	AI, ML, NLP, LLMs
Languages	Python, Javascript (ts), Java. Used, but not updated on: Scala, C++, C#, Ruby
Web	HTML(5), CSS/Sass, GraphQL, React, Angular, Vue.js, Svelte, Node.js, Express, Firebase
Libs	ML: Torch, Transformers, Keras — other: Rails, Qt, OpenCV, Spring
DevOps	Docker, Kubernetes
Tools	Git, CI/CD, ∗nix, vim