

TOON KLING

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Rotterdam, The Netherlands \diamond Dutch Native, English Fluent, German B1

EDUCATION

TU Delft **MSc Computer Science** September 2024 - Exp. July 2026
Specialization in **Programming Languages** and **Distributed Systems**

TU Delft **BSc Computer Science and Engineering** September 2019 - January 2024
With a **Minor in Computational Science and Engineering**, TU Delft

EXPERIENCE

Software Developer at [UTURN](#) October 2022 - August 2024, *Rotterdam*

- Contributed to development of UTURN, a scale-up matching container transports in the logistics sector
- Developed new features and fixed bugs in the Spring Boot backend
- Simplified and standardized API endpoints, adopting RESTful design and documentation using OpenAPI
- Reduced main page load time from \sim 6 seconds to \sim 250 ms, which stopped user complaints
- Migrated a minimal CI/CD pipeline from a Jenkins server to Github Actions, reducing deployment times and increasing stability. Added code coverage metrics, linting and static analysis with SonarQube
- Migrated a self-hosted PostgreSQL database to a hosting platform (Neon) with minimal downtime
- Upgraded from JDK 15 to 21 and from Spring Boot 2.6 to 3.2, which were the latest at the time

Software Project at [MakeTek](#) Javascript, NodeJS, React, Redis 2022

- Recommending related products when a product is out of stock, using content-based filtering
- Build a Redis database to store information on products, populated by making API requests
- Developed a RESTful API to handle request for recommendations using NodeJS

PROJECTS

Bachelor Thesis Improving Automatic Test Case Generation by predicting optimal Fitness Functions [TU Delft](#)

- Predicted optimal Coverage Criteria to use in [EvoSuite](#) [GitHub](#)
- Retrieved, transformed and analyzed data using Pandas
- Collected class metrics on source code: LOC, CBO, DIT, etc
- Classification using a Random Forest Classifier, achieved an f1-score of 0.865

Distributed Data Systems Group Project for Web-scale Data Management Course [GitHub](#)

- Hardened and scaled a microservices-based architecture to handle increased load and provide ACID guarantees
- Used [2PC](#) to guarantee global atomicity. Implements a [2PL](#) schedule to prevent transaction anomalies

Masters Thesis Verification of Concurrent Program Translation Exp. Defence July 2026
with the **Programming Languages Research Group** TU Delft

- Investigated problems in translating programs between formal memory models of ARM and x86
- Verified forbidden behaviour under ARM's memory model by finding dependencies in [LLVM](#) IR code using a new LLVM pass in C++
- Extended a Rust program to find forbidden *po-rf* cycles in execution traces of existing concurrent programs

SKILLS

Languages	Java, Python, SQL
Libraries	Spring Boot, Hibernate, FastAPI
Tools	PostgreSQL, Git, Docker, Linux