

Călin-Andrei Georgescu

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About

INTERESTS

- Software Engineering
- Machine Learning
- Evolutionary Algorithms

SKILLS

- Languages: Romanian, English, German.
- Programming Languages: Python, C++, C, Java, Haskell, Scala, Bash, Go, Julia.
- Frameworks: numpy, Django, pytest, junit, Spring Boot, PyTorch.
- Other technical skills: Unix, Git, Docker, Kubernetes, Test Driven Development, Functional Programming, \LaTeX .

Education

M.Sc. Computer Science

[Delft, NL](#)

GRADUATE AT DELFT UNIVERSITY OF TECHNOLOGY

2021-Present

- Artificial Intelligence Technology Track
- Followed courses in Machine Learning, Deep Reinforcement Learning, Software Architecture, Evolutionary Algorithms, Intelligent Decision Making, Probabilistic Programming etc.
- On track for graduating Cum Laude.

B.Sc. Computer Science and Engineering

[Delft, NL](#)

UNDERGRADUATE AT DELFT UNIVERSITY OF TECHNOLOGY

2018-2021

- Systems specialization: Digital Systems, Embedded Systems, Operating Systems
- Minor: Computational Science and Scientific Programming.

Experience

Delft University of Technology

[Delft, NL](#)

TEACHING ASSISTANT

January 2021- Present

- Helped with teaching activities for courses regarding Operating Systems, Scientific Programming, and Software Engineering.
- Developed and improved feedback-driven automatic grading tools for student projects. My work has been used by over 500 students.
- Helped students with their questions and graded their assignments over 10 week periods.
- Supervised and guided multidisciplinary teams of students for their projects.
- Helped create and maintain several projects and assignments.
- Led a small team of assistants as head TA.

Projects

TypeSpaceBERT: A Deep Similarity Learning-based CodeBERT Model for Type Inference

[Delft, NL](#)

TU DELFT

September - November 2022

- Devised an extension of a state-of-the-art pre-trained NL/PL model for the task of type inference for TypeScript.
- Implemented a training procedure centered around similarity learning in a Euclidean space.
- Empirically analyzed accuracy and scalability against a self-implemented baseline.
- Results presented in the form of a research paper.

Using graph addition-contraction to compute tighter bounds in hybrid MaxSAT/CP solving for Correlation Clustering

[Delft, NL](#)

TU DELFT

April - June 2022

- Proposed, implemented, and evaluated a novel SAT-based approach to the Correlation Clustering problem.
- Main contribution consisted of the implementation of dynamic bounding techniques using intermediate graph representations.
- Results presented in the form of a research paper.

The effects of Local Search on Random Key encoding schemes for the Traveling Salesperson Problem

Delft, NL

TU DELFT

May - June 2022

- Proposed, implemented, empirically evaluated, and compared a novel ELS-based approach for the TSP problem.
- Novel approach and literature standard implemented on three different encoding schemes.
- Results presented in the form of a GECCO-template research paper.

In pursuit of reproducible release engineering pipelines for extensible machine learning based systems

Delft, NL

TU DELFT

May - June 2022

- Transformed a barebones StackOverflow tagger ML application into a production-ready system.
- Implemented continuous learning and deployment using a microservice based architecture.
- Focus on extreme reproducibility and developer friendliness.
- Technologies used: GitHub, Docker, Kubernetes, Terraform, Google Cloud infrastructure (Pub/Sub, Bucket), Grafana, Prometheus.

Modeling System Behaviour from Log Analysis Using Meta-Heuristic Search

Delft, NL

CISELAB, TU DELFT

April - June 2021

- Implemented four different evolutionary algorithms to model a system's behaviour based on its logs.
- Performed quantitative analysis of the performance and scalability of the four inference algorithms.