

Curriculum Vitae

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Personal Information

Name (Tom) Thomas Theo Paul Franken
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Education & Research Experience

Technical University Eindhoven, PhD Trajectory

10/2021-current

- *Subject*: The Autonomous Data Language: data-autonomous programming with a focus on structure, simplicity, parallelism and verification. Design, Adaptation and the creation of Verification Methods.
- *Supervisors*: dr. ir. Thomas Neele (daily supervisor), prof. dr. ir. Jan Friso Groote (main supervisor)
- *Side-tracks*: Parallel Algorithms: Adapting Cole's Algorithm, The Expressibility of Switching Graphs (also known as Binary Parity Games).
- *Teaching*: Computer Systems, Practical Tutor 2022-2024
Leading practical sessions and the grading therein, designing exam questions, efforts in further developing the course.

Technical University Eindhoven, Master Computer Science

09/2018-08/2021

- *Final Project*: **Set System Oracles for Subtrajectory Clustering**
 - * *Subject*: How to create a data structure to function as a set system oracle for use in solving Subtrajectory Covering with Greedy Set Cover.
 - * *Supervisors*: dr. Kevin Buchin (TU Eindhoven), prof. dr. Anne Driemel (University Bonn).
- *Internship*:
 - * *Subject*: Formally translating Hierarchical Equation Systems into Parameterized Boolean Equation Systems and the use of CHC solving on both HES and its equivalent PBES.
 - * *Supervisor*: Tim Willemse (Technical University Eindhoven)

Technical University Eindhoven, Bachelor Computer Science

09/2015-07/2018

- Combined Majors Software Science & Web Science

Stedelijk Gymnasium Den Bosch (SGDB)

09/2009-07/2015

- *Profile*: Nature & Technology and Nature & Health

Work Experience

Student jobs at the Technical University Eindhoven:

- Student Assistant Logic & Set Theory 09/2017-10/2017 & 09/2020-11/2020
Grading weekly tests and assisting at tutor sessions.
- Student Assistant Algorithms 11/2018-01/2019 & 09/2019-11/2019
Grading weekly homeworks and assisting at tutorial sessions.
- Student Assistant Computer Systems 02/2018-04/2018
Grading during tutorial sessions, as well as chat monitoring and answering questions during lectures.

Other Professional Experiences

- Treasurer of E.P.A. Nexus 04/2024-current
Bookkeeping and budgeting as a treasurer, also involved in activity planning.
- Member of the TU/e Math and Computer Science Department PhD Council 10/2022-current
Discussing departmental policies and problems and how they relate to PhDs.
- Chairman of the Institute for Programming research and Algorithmics PhD Council 06/2022-current
Point of Contact for the IPA director, organising the social event on the IPA Fall Days.
- Secretary of Da Vinci, Archery Association Eindhoven 11/2016-10/2017, 10/2020-09/2021
Answering mails, doing member administration, planning activities and making minutes of meetings.
- Member of Student Team T.E.S.T. (TU/e Sensing Team) 11/2017-09/2018
A student team project to create a biosensor for the SensUs competition.

Conferences and Reviews

Attended

- SEFM 2023 (*helper*)
- ICTAC 2023 (*accepted paper*)
- FORTE 2024 (*accepted paper*)

Reviewed for

- SETTA 2022 & 2023 (*subreviewer*)
- FMICS 2022 (*subreviewer*)
- iFM 2023 (*subreviewer*)

Skills and Interests

Languages

- Dutch, *native language*
- English, *fluent*
- German, *basic*
- Italian, *basic*

Research Interests

- Parallel Verification
- Parallel Algorithms
- Concurrency
- Uncertainty
- Graphs & Games
- Parallel Hardware (less developed)

Hobbies

- Cooking
- Board- and Roleplaying Games
- Music
- Archery
- Travel Sports (walking, biking, swimming)

Publications

- [1] Franken, T.T.P., Neele, T.: AuDaLa is Turing Complete. In: FORTE 2024 Proc. LNCS, vol. 14678, pp. 221–229. Springer Nature Switzerland (2024). doi:10.1007/978-3-031-62645-6_12
- [2] Franken, T.T.P., Neele, T.: Audala is turing complete (2024), <https://arxiv.org/abs/2404.12934>, (Extended version of FORTE paper)
- [3] Franken, T.T.P., Neele, T., Groote, J.F.: An Autonomous Data Language. In: ICTAC 2023 Proc. LNCS, vol. 14446, pp. 158–177. Springer Nature Switzerland (2023). doi:10.1007/978-3-031-47963-2_11
- [4] Leemrijse, G.P., Franken, T.T.P., Neele, T.: Formalisation of a new weak semantics for audala. In: ATVA 2024 Proc. LNCS, Springer Nature Switzerland (2024), (forthcoming publication, paper is accepted)