

PERSONAL DETAILS

Full name: Francesco Carere
Date of birth: 23 december 1996
Nationalities: Dutch, Italian

EDUCATION

- Master Mathematical Sciences** 2019 – 2022
Universiteit Utrecht *Utrecht, The Netherlands*
- Specialisation: Applied Mathematics with a focus on PDE and optimisation
 - Master thesis: *Numerical KAM theory and backward error analysis for symplectic methods for non-autonomous, time-affine, Hamiltonian ODE*
- Bachelor physics** 2015– 2019
Universiteit Utrecht *Utrecht, The Netherlands*
- Honours profile 2016–2018
 - Bachelor thesis (honours profile): *Electromagnetism and magnetic monopoles*
 - Cum laude
- Bachelor mathematics** 2015–2019
Universiteit Utrecht *Utrecht, The Netherlands*
- Minor computer sciences (2018–2019)
 - Cum laude

WORK EXPERIENCE

- Post-degree employee in High Performance Computing** 2023–current
CMCC *Lecce*
- Parallel programmer
 - Performances optimisation of the SHYFEM-MPI model
- Translator** 2019–2022
Aves Patent BV
- Checking various English-Italian translations of patent applications
- Working student** 2019
iwell Batterijsystemen *Utrecht*
- Data analysis (descriptive statistics) for batterysystems using *Pandas* in *Python*
- Teaching assistant** 2018–2020
Utrecht University *Utrecht*
- For the courses *Inleiding analyse in meer variabelen*, *Lineaire algebra* and *Functies en reeksen*
- Tutor** 2013–2015 & 2018–2021
Private *Nijmegen & Utrecht*
- To high and middleschool students for e.g. Mathematics, Physics, Chemistry, Latin and Dutch

TRAINING

- MOOC MLWC | *ECMWF & iFAB* 2023
- Massive online open course for a high-level general introduction, and partial in-depth treatment of cutting-edge machine learning techniques in weather and climate

LIST OF PUBLICATIONS

None

TEACHING

- Teaching assistant | *Universiteit Utrecht* 2018–2020
- For the course *Functies & Reeksen (Functions and Series)*
 - For the course *Lineaire algebra*
 - For the course *Inleiding analyse in meer variabelen (introduction to multivariable analysis)*
- Tutor | *private* 2012–2020
- For high school students in mathematics and physics (and other)

TALKS

- Master thesis defense | *CCSS Utrecht University* August 2022
- On KAM theory for periodic, time-dependent perturbations of discretised Hamiltonian ODE
- Complexathon | *CCSS Utrecht University* Februari 2021
- Presentation of research methods and results of CCSS complexathon project
- Bachelor thesis defense | *CCSS Utrecht University* July 2018
- On the Dirac and Polyakov-'t Hooft magnetic monopoles
- Honours seminar talk on lie groups | *Utrecht University* March 2018
- On irreducible representation of $SU(2)$ on the space of homogeneous polynomials of finite degree n
- Honours open talk on pilot-wave dynamics | *Utrecht University* June 2017
- Honours project on pilot-wave dynamics

PROJECTS

- Complexathon | *CCSS Utrecht University* 2020–2021
- Team leader of a group of 4
 - Goal: Model reduction of a complex chemical network based on graph methods

LANGUAGES

- Dutch (native)
- English (C1)
- Italian (B2)
- French (B1)

PROGRAMMING AND SIMULATION LANGUAGES

- Main: C, C#, Matlab, Python, Wolfram Mathematica
- Other: Fortran, LaTeX, MulticoreBSP for C