

Curriculum Vitae

education

- 2012-2016 Master Mathematics summa cum laude, Radboud University Nijmegen
Master thesis "Computing the power residue symbol" supervised by dr. W. Bosma and prof. dr. H.W. Lenstra. Research track with focus on Computer Algebra and Arithmetic Number Theory.
- Implemented an algorithm that computes Hilbert symbols in Magma, created and implemented an algorithm that computes the power residue symbol. Analysed this algorithm both mathematically and empirically in my master thesis;
 - Created, implemented and analysed a fast binary GCD-like algorithm for quadratic non-Euclidean number rings during the course Computer Algebra;
 - Implemented and compared various eigenvalue approximating algorithms for large matrices, during the course Numerical Linear Algebra;
 - Implemented a Poisson PDE-solver in Matlab, and comparing the results to error-predictors, during the course Numerical Methods for Stationary PDE's.
- 2008-2012 Bachelor Mathematics cum laude, Radboud University Nijmegen
Bachelor thesis "The Runge Phenomenon" supervised by prof. dr. W. Hundsdorfer.
- Focus on the courses: Quadratic Number Theory, Galois Theory, Cryptography and Numerical Methods.
- 2010-2012 Composition, Fontys Conservatory Tilburg
Focus on algorithmic composition and minimalism. No Certificate.
- Wrote compositions for piano solo, string quartet, choir and various other ensembles, supervised by C.J. van den Bergh;
 - Used Java and Jmusic to generate algorithmic compositions, supervised by ir. J. van Geenen.
- 2002-2008 VWO, Titus Brandsma Lyceum Oss
NT/NG Track. Science thesis: "The mechanics of the gyroscope".
- Implemented a logical sudoku solver in C++ and cooperated in programming a small 2d game on the Nintendo DS in PALib;
 - Implemented a symbolic differentiating machine in TI-Basic and a screen saver in assembly for the TI-84+ graphic calculator.

work experience

- 2015 - 2016 Teaching Assistant at Radboud University Nijmegen
Algebraic Number Theory, Master Course (Prof. dr. F. Keune, RU)
- 2012 - 2013 Teaching Assistant at Radboud University Nijmegen
Numerical Methods (Prof. dr. W. Hundsdorfer, CWI)
Ordinary Differential Equations (Prof. dr. W. Hundsdorfer, CWI)
Discrete Mathematics 2 (Dr. M. Solleveld, RU)
- 2009 - 2010 Teacher at Studiebegeleiding Nijmegen Nijmegen
- Answered questions from high school students about math, chemistry, science and music;
 - Checking homework and making mock exams.

interests

Mathematics, programming, composition, playing piano, playing violin, swimming, walking, nature, reading.

languages

Dutch – Mother Tongue
English – Upper intermediate (writing, reading); intermediate (speaking)
German – Basic



Koen de Boer

Mathematician

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About me

A creative mathematician looking for challenging problems. Exploring the computational context of abstract mathematical concepts is what intrigues me most.

Skills

Computer Algebra

Numerical Analysis

Matlab, Magma, Mathematica

Sage, LaTeX

C++

Java, Python, HTML, PHP, MySQL, Linux