

# Danny Nygård Hansen

## *Curriculum Vitae*

### Contact information

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### Work experience

#### 2018–2021 Teaching Assistant, **Aarhus University**

TA for undergraduate courses in the Departments of Mathematics and Computer Science at Aarhus University. The responsibilities of the TA include supervising weekly exercise sessions, correcting assignments and course projects, and helping students through internet forums and study cafés.

#### 2020–2021 Student Counsellor, **Aarhus University**

Student counsellor for mathematics, statistics and science studies. As student counsellor my job has been to help current students at Aarhus University, as well as incoming students and alumni, with everything from administrative issues to student welfare. As student counsellor I have also completed the internal counselling course at Aarhus University.

#### 2014–2016 Pianist, **Happy Voices Gospel Choir**, Viborg

Pianist for amateur choir with around 50 members. I had the main responsibility for the accompaniment section and took part in arranging and planning our repertoire.

#### 2014–2016 Freelance musician and music educator

I have performed at church services, receptions, birthdays and other occasions. I have also given piano lessons, both privately and at workshops.

## Education

- 2021–now BSc in Computer Science, **Aarhus University** Prelim. GPA: 12/12  
Electives in mathematics and statistics.
- 2018–2021 BSc in Mathematics, **Aarhus University** GPA: 11.8/12  
Undergraduate thesis: ‘Unbounded Operators on Hilbert Space with Applications in Quantum Mechanics’.  
Electives in computer science and statistics. Participated in and completed the Mathematics Talent Track (30 ECTS extracurriculars).
- 2016–2018 Undergraduate studies in physics, **Aarhus University** GPA: 12/12  
Completed the first two years of a BSc programme in physics. Participated in the Physics Talent Track (completed 12 ECTS extracurriculars).
- 2014–2016 ‘Musikalsk Grundkursus’ (MGK), **Kulturskolen Viborg**  
MGK is a three-year advanced music course whose purpose is partly to educate musicians and music creators, and partly to prepare students for application music conservatories. I completed the course in two years receiving the top grade, and received an offer of admission from the Royal Academy of Music in Aarhus.
- 2011–2014 ‘Studentereksamen’, **Viborg Katedralskole** GPA: 12.1/12  
The Higher General Examination Programme, the Danish general upper secondary education programme. Completed the specialised study programme in music and English with electives in physics and astronomy. Self-studied upper-level mathematics. Received Knud Valdemar Iversen and wife Ellen Iversen’s grant for general proficiency.

## Teaching experience

I have been a teaching assistant (instruktør) for the following courses at Aarhus University:

- Spring 21 *Introduction to Programming with Scientific Applications*. Department of Computer Science.
- Spring 20 *Mathematical Analysis 2*. Department of Mathematics.
- Autumn 19 *Mathematical Analysis 1*. Department of Mathematics.
- Autumn 18 *Calculus Beta*. Department of Mathematics.

## Technical and computer skills

- Software development in Java. Test-driven development, compositional design, and design patterns.
- Computer architecture. Programming in C and x86 assembly. Basic knowledge of operating systems, in particular Unix.
- Concurrent and distributed (network) programming in C, Java and Go.
- Scientific and statistical programming in Python and R.
- Functional programming in Haskell, Scala and Lisp (Scheme/Racket).
- Theoretical computer science: Algorithms and data structures, programming language theory, computability and logic.
- Experience with database systems and data modelling, in particular relational databases and SQL, concurrency control and recovery. Basic knowledge of data mining.

For more details see my [GitHub page](#) and a [complete list of university coursework](#).

## Language skills

<i>Danish</i>	Native proficiency
<i>English</i>	Full professional proficiency
<i>German</i>	Limited working proficiency
<i>Korean</i>	I am studying diligently!

## Hobbies and interests

Outside of mathematics and computer science, music is my favourite pastime. I play the piano and guitar, and I sing in the Musicology Students' Choir at Aarhus University where I also volunteer as treasurer.

I also enjoy going for a walk in the forest or reading a good book (I'm currently reading Robertson Davies' *Fifth Business*).