Groningen, Netherlands
Phone number on request

Niels A. Bugel

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Education

Groningen, NL **University of Groningen** **Sep 2017 – Jul 2023**

- MSc. in Computing Science. Data Science & Systems Complexity — cum laude (GPA: 9.0/10)
- BSc. in Computing Science — cum laude (GPA: 8.8/10)

Employment

Teaching Assistant **University of Groningen** **Feb 2019 - Jul 2023**

- **BSc courses**: Object-Oriented Programming (5x; Coordinator), Advanced Object-Oriented Programming (4x; Coordinator), Algorithms and Data Structures in C for AI (2x), Advanced Algorithms and Data Structures (2x), Signals and Systems (2x), Parallel Computing (2x), Computer Graphics, Operating Systems.
- **MSc courses**: Advanced Computer Graphics, Advanced Parallel Programming, Image Processing (2x).
- **Student Mentor**.

Designed course material such as readers, assignments, frameworks, grading schemes, and tutorials. Coordinated courses of over 300 students and managed teams of up to 30 Teaching Assistants. Gave lectures, tutorials, presentations, and lab sessions for groups of up to 150 students. Main technologies: C, C++, Java, and CUDA.

Numerus Fixus Coordinator CS **University of Groningen** **Oct 2019 – Jul 2023**

- Designed, wrote and organized the selection procedure taken by over 400 students for the CS Programme.
- Coordinated a team of Teaching Assistants in grading the selection tests and portfolios.
- Streamlined and automated a large portion of the Numerus Fixus process on a faculty level.

Full Stack Developer **University of Groningen** **Oct 2020 – Aug 2022**

- Designed, built, and maintained MATIG: a system that simplifies the organization and automates a large part of the matching procedure for several studies at the Faculty of Science and Engineering. Built using React, Express.js, MongoDB and Redis. Deployed on the university servers using Docker and Kubernetes.
- Laid the foundation for a plagiarism scan feature in the university's online grading system Themis (Node.js).

Technical Experience

Projects

- **NITRO: Image-Processing Node Editor** (2023). A visual node editor that allows for building complex non-destructive image processing pipelines. Built using C++, Qt, OpenCV, OpenGL, and CMake (GitHub).
- **Distributed GPU Convolution** (2022). A massively parallel implementation of generalized convolution operators for large image data sets in distributed systems. Built using C, CUDA, pthreads, and MPI (GitHub).
- **Bug-EI** (2023). Custom Java implementation of JUnit to demonstrate the usage of custom annotations and Reflection for the course Advanced Object-Oriented Programming. Built using Java and Maven (GitHub).

Additional Experience and Awards

- Best presentation award for *Introduction to Data Science* course, *Student Colloquium* 2-minute madness, *Student Colloquium* paper presentation, *Information Systems* course.
- Student member interview committee *Tenure Track Assistant Professor* (x2) and student member interview committee *Teachers for the Computing Science Programme*.

Languages and Technologies

- C; C++; Java; JavaScript; MATLAB; Python; Bash
- CUDA; OpenGL; GLSL; Qt; React; Node.js; Docker; Kubernetes; SQL; Maven; JUnit; Mockito; CI/CD; Git