Niels A. Bügel

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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.

Responsibilities included: (1) Designing course material, such as readers, assignments, and tutorials. (2) Coordinating teams of TAs, creating schedules, grading schema, and communicating with students. (3) Giving lectures, tutorials, and lab sessions.

Numerus Fixus Coordinator CS

University of Groningen

Oct 2019 – Jul 2023

- Designed, wrote and organized the selection test for the CS Numerus Fixus Programme each year.
- Responsible for leading a team of TAs in grading the selection tests and portfolios.
- Involved in streamlining and automating the Numerus Fixus process on a faculty level.

Web 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, Redis, and Kubernetes.
- Responsible for adding a plagiarism scanning feature to the university's online grading system Themis.

Education

Groningen, NL

University of Groningen

Sep 2017 – Jul 2023

- Master's Computing Science. Data Science & Systems Complexity. GPA: 9.0/10 Cum Laude.
- Bachelor's Computing Science. GPA: 8.8/10 Cum Laude.

Technical Experience

Projects

- NITRO: Image-Processing Node Editor (2023). A node editor that allows for building complex image processing routines. Built using C++, Qt, OpenCV, and OpenGL (GitHub).
- **Distributed GPU Convolution** (2022). A GPU implementation of generalized convolution operators aimed at large image data sets for distributed systems. Built using C, CUDA, and MPI (GitHub).
- **GPU Catmull-Clark Subdivision** (2022). A GPU-accelerated version of the Catmull-Clark subdivision scheme using CUDA (GitHub).

Additional Experience and Awards

- Best Presentation Award: Received best presentation award for the following courses: Introduction to Data Science, Student Colloquium (2x), Information Systems.
- **Interview Committee:** 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; Python; Bash; CUDA; OpenGL; Qt; React; Node.js; Kubernetes; MongoDB; SQL
- Blender; Davinci Resolve; Adobe Photoshop; Adobe After Effects; Google Search