Groningen, Netherlands
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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 — GPA: 9.0/10 (Cum Laude).
- BSc. in Computing Science — GPA: 8.8/10 (Cum Laude).

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 multiple courses and managed teams of up to 30 Teaching Assistants. Gave lectures, tutorials, presentations, 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.
- 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.

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 and Redis. Deployed on the university servers using 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 non-destructive image processing pipelines. 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, pthreads, 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; Docker; Kubernetes; SQL
- Blender; Davinci Resolve; Adobe Photoshop; Adobe After Effects; Adobe Premiere Pro; Google Search