

PROJECTS

NITRO

GitHub

- Created a node editor that allows for building complex non-destructive image processing pipelines.
- Focused on making the project modular and extendable.
- The project is open-source and comes with documentation.
- Built using C++, Qt, OpenCV, and OpenGL.

CERN CMS Event Visualizer

GitHub

- Built a web application for the visualization of particle collision events.
- Created a back end in Flask that uses the CERN Open Data API to retrieve collision event information.
- Used the event data to visualize particle trajectories using React and Three.js.
- Still in development.

Distributed GPU Convolution

GitHub

- Created a massively parallel implementation of generalized convolution operators for large image data sets in distributed systems.
- Used CUDA for an efficient GPU implementation, pthreads for CPU-parallelism to hide latency, and MPI to effectively utilize multiple computing nodes.

Bug-EI

GitHub

- Custom Java implementation of JUnit to demonstrate the usage of custom annotations and Reflection for the course Advanced Object-Oriented Programming.
- Partially live-coded in front of an audience.
- Built using Java and Maven.

ADDITIONAL EXPERIENCE AND AWARDS

- Submitted a paper to the CAGD journal (currently under review).
- Best presentation award for the courses:
 - *Introduction to Data Science*
 - *Student Colloquium* (x2)
 - *Information Systems*
- Student member of the following interview committees:
 - *Teachers for the Computing Science Programme*
 - *Tenure Track Assistant Professor in Visual Computing*
 - *Tenure Track Assistant Professor in Embedded Systems*
- Democratically elected as "funniest teaching assistant" somehow.