Thor Vestergaard Christiansen

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Education

2023 - Present **PhD Student at the Technical University of Denmark**
Advised by Prof. J. Andreas Bærentzen and Assitant Prof. Morten R. Hannemose
Topic: Neural Form Representation

2021 - 2023 **Honours MSc. in Engineering at the Technical University of Denmark**
Master of Science in Mathematical Modelling and Computation
Honours student advised by Assoc. Prof. Jeppe Revall Frisvad
Thesis: Neural Volumetric Shape Representations

2017 - 2021 **BSc. in Engineering at the Technical University of Denmark**
Bachelor program in Electrical Engineering
Bachelor thesis: Sensorbased navigation for drones

2019 **Exchange student on my bachelor at ETH Zürich**
Department of Information Technology and Electrical Engineering

2014 - 2017 **High School: Aarhus Katedralskole Gymnasium**, DK

2013 - 2014 **High School student at Rio Rancho High School**, NM, USA
Exchange student through Rotary Youth Exchange Program

Research Experience

2021 **Special course on Surface Reconstruction from Point Clouds**
In this special course I worked on a simple algorithm that could mesh a point cloud based on the tetrahedralization of the point cloud. The special course was supervised by Prof. at the Technical University of Denmark, J. Andreas Bærentzen.

2022 **Special course on Tomographic 3D Printing**
In this special course I created a ray tracing algorithm to compute sinograms in order to print objects on a tomographic volumetric 3D printer. Furthermore, I made a script that could compute the jaccard index as a similarity measure between the design and the printout. The special course was supervised by Assoc. Prof. at the Technical University of Denmark, Jeppe Revall Frisvad, and Asst. Prof. at the Technical University of Denmark, Yi Yang.

2022 **Special course on Neural Surface Representation**
In this special course I created a neural network that could represent geometric objects of arbitrary shapes. Besides representing the shapes, the objects could also be classified and clustered according to their geometric characteristics using a self optimized latent space. The special course was supervised by Assoc. Prof. at the Technical University of Denmark, Andreas Bærentzen, Assoc. Prof. at the Technical University of Denmark, Rasmus Reinhold Paulsen, and Asst. Prof. at the Technical University of Denmark, Morten Rieger Hannemose.

Teaching Experience

2023 **Teaching assistant in 02504 Computer Vision**
Course offered at the **Technical University of Denmark** covering topics such as camera calibration, key-point detection, visual odometry and 3D reconstruction. My work as a TA included weekly consultations with the students.

2022 & 2023 **Teaching assistant in 02580 Geometric Data Analysis and Processing**
Course offered at the **Technical University of Denmark** covering topics such as delaunay triangulation, distance fields, isosurface polygonization, volumetric reconstruction, mesh smoothing and the Laplace Beltrami Operator. My work as a TA included weekly consultations with the students and correcting assignments.

2019 & 2021 **Teaching assistant in 01037 Advanced Engineering Mathematics 2**
Course offered at the **Technical University of Denmark** covering topics such as differential equations, stability of systems, infinite series and fourier series. My work as a TA included daily consultations with the students and correcting assignments. I was a TA in the course in August 2019 and in August 2021.

Honours and Awards

2018 **Winner of Oticon Audio Explorers**
Winner of the Oticon Audio Explorers Challenge, which is a case competition about improving hearing aids (in this case improving the user interface) arranged by the Danish hearing aid company Oticon.

2015 **Designed an experiment, which was conducted onboard the International Space Station by Andreas Mogensen**
Winner of the Danish Broadcasting Corporation's (DR) and the Europen Space Agency's (ESA) competition on proposing an experiment to be conducted by the first Danish Astronaut, Andreas Mogensen, onboard the International Space Station during his IRISS-mission.

Other Activities

2014 - 2017 **Akademiet for Talentfulde Unge | Midt**
During gymnasium (High School in Denmark) I was selected to be a member of Akademiet for Talentfulde Unge | Midt (The Academy for Talented Youth | Midt) along with other academically motivated students from other gymnasiums in my region, Region Midtjylland. This extracurricular activity included lectures and seminars on various topics and a summer camp.