

(Mark) Shui Hu

Applied Physics Graduate
Python developer
Tweaker



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📅 15-02-1995

Hi, my name is Mark. I am always eager to learn, use, and produce innovative tools to tackle complex problems. I am attentive to detail and well organized. In my work, presentation and visual aesthetics are also essential. By combining these traits, my passion has become to create software that can convey detailed information using visualization.

📁 EXPERIENCE

- Student assistant** 2018 - 2020
QuTech Academy, Delft
Preparation and testing of online courses on quantum mechanics
- Flow engineer intern** 2018 - 2019
Spirocco Kft., Budapest
Design, simulation and testing of volume-flow meters within an asthma inhaler using Autodesk CAD, Autodesk CFD programs, and 3D printing
- Marketing and communications intern** 2018
Technoorg Linda Kft., Budapest
Production of a series of educational videos regarding electron microscopy
- Online content manager** 2018
Bever BV, Pijnacker
Development of Python software for easier online product management
- Highschool student tutor** 2014 - 2017
iLoveHomework, the Hague
Homework guidance and tutoring on the subjects of physics, mathematics, chemistry, and biology
- Software engineer intern** 2016
PinkRF, Nijmegen
3D volume reconstruction from stereometric images via MATLAB

📁 PROJECTS

- OpenSurfaceSim** (Open Surface Code Simulations)
<https://github.com/watermarkhu/opensurfacesim>
Open-source simulator for benchmarking and visualizing surface code decoders, written in Python, grant received from the Unitary Fund

📄 PUBLICATIONS

- Quasilinear-Time Decoding Algorithm for Topological Codes with High Decoding Performance**
S. Hu, D. Elkouss
ResearchGate pre-print, (2020)

Languages

Native  Fluent 

Skills

Python3	● ● ● ● ●	Adobe Creative Suite	● ● ● ● ●
Matlab	● ● ● ● ●	Autodesk Fusion 360	● ● ● ● ●
LaTeX	● ● ● ● ●	Autodesk CFD	● ● ● ● ●
Bash	● ● ● ● ●		
SQL	● ● ● ● ●		
HTML5 & CSS	● ● ● ● ●		

🎓 EDUCATION

- Master Applied Physics** 2017 - 2020
Delft University of Technology 8.6/10
Electives on fluid dynamics, imaging physics, and quantum mechanics
Master thesis on quantum computation at QuTech; new solutions to quantum error correction on a self-produced quantum simulator in Python
- Bachelor Applied Physics** 2013 - 2017
Delft University of Technology 7.7/10
Bachelor thesis on imaging and biophysics; description and further development of a software package for DNA analysis in MATLAB
- Minor Medical Delta** 2015 - 2016
Erasmus University Rotterdam, Leiden University 7.0/10
Courses on anatomy, biophysical processes, and imaging techniques
- Gymnasium** 2007 - 2013
Lorentz Casimir Lyceum 7.8/10
Curriculum: science & engineering and science & health + German & French
Runner-up at the Singapore International Mathematics Challenge 2012

🎯 ACTIVITIES

- Freshman's weekend committee** 2017
Vereniging voor Technische Physica
Presidential role in organizing the freshman weekend activity for 300+ students
- Study tour committee** 2015 - 2016
Vereniging voor Technische Physica
Graphic design and communication role in organizing a 30-day study tour to South-East Asia and China
- Various committees** 2007 - 2015
Vereniging voor Technische Physica, AECEE Delft, Lorentz Casimir Lyceum
Various roles including organizer of symposia, editor and graphic designer for the faculty magazine and yearbook, and IT related committees
- Participant and volunteer First Lego League** 2006 - present
First Lego League Benelux, Germany, Denmark, Norway, Japan
Participant and organizational volunteer for the regional, national, and international finals of the First Lego League competition