(Mark) Shui Hu

Applied Physics Graduate
Python developer
Tinkerer

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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 recreived from the Unitary Fund

PUBLICATIONS

Quasilinear-Time Decoding Algorithm for Topological Codes with High Decoding Perfomance
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 Challege 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, AEGEE 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

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