Departent	Academic lead	Program areas	Projects available for placements 2022	Duration	Required min cGPA & Required years completed GPA	Application documents - Upload as one PDF document to MO by the application deadline	In case in-person exchange is not available due to COVID, project can be done remotely
Materials Science and Engineering	Yanhao Yu	Materials Science and Engineering - polymer/ceramic hybrid materials	We will develop new polymer/ceramic hybrid materials.	10 weeks	3.2/4.0 and min of 2+ years of UG studies completed	Curriculum vitae (incl. listing publications if any） A cover letter Academic Transcript (unofficial) Two Letters of Recommendation	YES
Mathematics	Yifei Zhu	Topology and its applications	Interaction of topology with number theory and math physics; applications of topology to data science and physics	10 weeks	3.2/4.0 and min of 1+ years of UG studies completed	Curriculum Vitae Research Statement (please include your primary areas of mathematical interest, a brief description of any research experiences you have had, and a statement of purpose) Academic Transcript (unofficial) At least two reference letters	YES
Computer Science and Engineering	Shin Hwei Tan	Software Engineering	We will apply program analysis and deep learning techniques to solve software engineering tasks such as finding bugs, automated debugging, and repair	10 weeks	3.2/4.0 min of 2+ years of UG studies completed	Curriculum vitae (incl. listing publications if any） A cover letter Academic Transcript (unofficial) Two Letters of Recommendation	YES
Finance	Shufang Lai	Corporate Finance, Corporate Governance, Information Disclosure	We will do literature review and use Phython\SAS\Stata to conduct research projects in Corporate Finance, Corporate Governance or Information Disclosure.	10 weeks	3.2/4.0 min of 3+ years of UG studies completed	Curriculum vitae (incl. listing publications if any） A cover letter Academic Transcript (unofficial) Two Letters of Recommendation	NO
Finance	Ti Zhou	Machine learning in finance	We will apply machine learning technqiue in financial forecastign and asset allocations.	10 weeks	3.6/4.0 of 1+ years of UG studies completed	Curriculum vitae (incl. listing publications if any） A cover letter Academic Transcript (unofficial) Two Letters of Recommendation	N0
Environmental Science and Engineering	Jiping Jiang	1)nonlinear system analysis of river water quality changes; 2)development of data mining tool box of environmental big data	1) science oriented. We will use chaos theory and deep learning tools to identify and predict the nonlinear features of water quality changes in watershed; 2) engineering oriented. We intend to develop a generic tool box for sensor data analysis based on water environment. Good skills in programming is required.	10-12 weeks	3.2/4.0 min of 2+ years of UG studies completed	Curriculum vitae (incl. listing publications if any） A cover letter Academic Transcript (unofficial) Two Letters of Recommendation	Yes
Environmental Science and Engineering	Lian Feng	Remote Sensing of the Environment	We will offer opportunities to process long term remote sensing images, to examine how the water environments change over time in inland and coastal ecosystems	10 weeks	3.2/4.0 min of 2+ years of UG studies completed	Curriculum vitae (incl. listing publications if any） A cover letter Academic Transcript (unofficial) Two Letters of Recommendation	YES
Oean Science and Engineering	FU Yong	Offshore geotechnical engineering	Numerical and Experimental study on offshore geotechnical foundations	10 weeks	3.3/4.0 min of 2+ years of UG studies completed	Curriculum vitae (incl. listing publications if any） A cover letter Academic Transcript (unofficial) Two Letters of Recommendation	NO

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Oean Science and Engineering	Zhirui Zeng	microbiology	Hot spring archaea and virus isolation, culture, and characterization.	8 weeks	3.2/4.0 and min of 1+ years of UG studies completed	Curriculum vitae (incl. listing publications if any） A cover letter Academic Transcript (unofficial) Two Letters of Recommendation	NO
Oean Science and Engineering	Feng Weiqiang	Intellegent Geotechnical Engineering	We will apply deep learning methods on the detecting data from cone penetration test in the field to make a good prediction.	10 weeks	3.2/4.0 min of 2+ years of UG studies completed	Curriculum vitae (incl. listing publications if any） A cover letter Academic Transcript (unofficial) Two Letters of Recommendation	YES
Oean Science and Engineering	Dr Xingya Feng	Offshore Renewable Energy	Development of novel offshore renewable energy devices	12 weeks	2.25/4.0 and min of 3+ years of UG studies completed	Curriculum vitae (incl. listing publications if any） A cover letter Academic Transcript (unofficial) Transcript for undergrad or master students	YES
Oean Science and Engineering	Mark James Hopwood	Marine Chemical Engineering	Over the past 40 years, huge amounts of data have been generated concerning the chemical composition of the coastal ocean, but very few global datasets integrate near-shore data, and thus it is very difficult to determine trends from historical time-series, or even to discuss general trends in how changing the coastline (e.g. removing mangroves for development) affects the chemistry of the ocean. Undergraduates with an interest in marine science and welcome to work with us to build such datasets investigating how the coastal ocean has changed in recent decades.	10 weeks	3.2/4.0 and min of 1+ years of UG studies completed	Curriculum vitae (incl. listing publications if any） A cover letter Academic Transcript (unofficial) Two Letters of Recommendation	YES
School of System Design and Intelligent Manufacturing (SDIM)	Juan DU	Intelligent Sensing, Big Data Analysis, Intelligent Manufacturing, Industrial Design, Material Analysis, Advanced Composite	Fast reliability detection of circuit board and package structure and failure mechanism and countermeasures & Energy storage mechanism and interfacial stability of carbon fiber composite batteries & Lidar - Robot positioning and navigation & Intelligent wearable systems and information integration	10 weeks	3.2/4.0 min of 2+ years of UG studies completed	Curriculum vitae (incl. listing publications if any） A cover letter Academic Transcript (unofficial) Two Letters of Recommendation	YES
Mechanical and Energy Engineering	Asso.Prof. Yonghua Zhao	Micro/Nano-machining	Use electrochemical micromachining methods to produce micro/or nano-scale features on hard materials.	10 weeks	3.2/4.0 min of 2+ years of UG studies completed	Curriculum vitae (incl. listing publications if any） A cover letter Academic Transcript (unofficial) Two Letters of Recommendation	NO
Earth and Space Sciences	Dikun Yang	Marine and waterborne electromagnetic detection technology	Experiments of electromagntic instrumentation for geophysical detection in waters; also including electromagnetic data analysis and applications in the Great Bay Area	8 weeks	2.25/4.0 and min of 2+ years of UG studies completed; Must have taken mathematical and physics courses at university level.	Curriculum vitae (incl. listing publications if any） A cover letter Academic Transcript (unofficial) Two Letters of Recommendation	Yes

Departent	Academic lead	Program areas	Projects available for placements 2022	Duration	Required min cGPA & Required years completed GPA	Application documents - Upload as one PDF document to MO by the application deadline	In case in-person exchange is not available due to COVID, project can be done remotely
Earth and Space Sciences	Ke Gao	fault mechanics	We will use the combined finite-discrete element method to simulate the stick-slip behavior of sheared fault, and investigate the mechanical mechanism of earthquake occurance.	10 weeks	3.2/4.0 and 2+ years of UG studies completed	Curriculum vitae (incl. listing publications if any） A cover letter Academic Transcript (unofficial)	YES
Earth and Space Sciences	Ke Gao	fault mechanics	We will use the combined finite-discrete element method to simulate the fracture propagation mechanism in tight reservoir rocks, and investigate how this could improve the stimulation of unconventional oil and gas reservoir.	10 weeks	3.2/4.0 and 2+ years of UG studies completed	Curriculum vitae (incl. listing publications if any） A cover letter Academic Transcript (unofficial)	YES
Earth and Space Sciences	Ting Yang	Geodynamics	We will use numerical models to simulate the Earth mantle's dynamic evolution in the past several hundred million years.	10 weeks	2.25/4.0 and min of 2+ years of UG studies completed	Curriculum vitae (incl. listing publications if any） A cover letter Academic Transcript (unofficial)	YES
School of Design	Luo Tao	User Interface and Interaction Research, Design, and Development for Mixed Reality	Mixed Reality (MR) is an emerging and promising field. It has the potential to turn the fancy hologram scenes in sci-fi movies into reality. However, the UI and Interaction design for Mixed Reality is still in its infancy. We will apply various design and prototyping methods in this project to explore possible design solutions in multiple contexts. Most importantly, we will also use our latest interaction design methodology (Interaction Design Language, refer to:http://ixdlanguage.org/?lang=en) in the design and iteration of the project. Since 2019, 24 invention patents have been applied using this methodology and 4 of which have already been approved. We are excited to see what this method can do in the new field of Mixed Reality and what new perspectives you can bring to the team. (example of MR products: Microsoft Hololens, Magic Leap 1)	10 weeks	2.25/4.0 and min of 2+ years of UG studies completed	Curriculum vitae (incl. listing publications if any） A cover letter Academic Transcript (unofficial) Two Letters of Recommendation	YES
School of Design	Christiane M. HERR https://www.sustech.edu.cn/en/facultys/christianemherr.html	Design / Environmental Design / Digital Design / Architecture / Environmental Engineering / Biology	We will apply digital design and fabrication techniques to design bioreceptive façade systems. This project integrates multiple disciplines and backgrounds, The aim of the project is to propose new types of building surfaces to support biodiversity in high density urban environments. Enthusiastic candidates with backgrounds in multiple fields are welcome to join this project.	8 weeks	2.25/4.0 min of 2+ years of UG studies completed	Curriculum vitae (incl. listing publications if any） A cover letter Academic Transcript (unofficial) One Letter of Recommendation	NO
Human Cell Biology and Genetics	Shimin Shuai	Long-read RNA-Seq Data Mining	We will compare and benchmark different state-of-the-art computational methods for Nanopore and PacBio RNA-Seq data analysis	10 weeks	3.2/4.0 min of 1+ years of UG studies completed	Curriculum vitae (incl. listing publications if any） A cover letter Academic Transcript (unofficial) Two Letters of Recommendation	YES