

YIXUAN HE

University of Edinburgh /South China University of Technology

<https://sherylhyx.github.io/> ◇ Y.He-48@sms.ed.ac.uk

Bachelor's: Mathematics and Statistics /Mathematics and Applied Mathematics (2+2)

EDUCATION

University of Edinburgh (UoE) Sept.2018 - June 2020(expected)
2+2 dual Bachelor's degree: **(BSc Hons) Mathematics & Statistics**
Courses: Statistical Methodology(**100%**), Financial Mathematics(**100%**), Stochastic Modelling(95%), Statistical Computing(95%), Honours Analysis(94%), Honours Algebra(94%), Statistical Learning(90%)etc.
Average: **93%**, **top 1** in Mathematics & Statistics

University of California, Berkeley Jan. 2018 - May 2018
Courses: Numerical Analysis (**A+**), Complex Analysis (**A+**), Abstract Algebra (**A**)

South China University of Technology (SCUT) Sept.2016 - June 2020(expected)
Major: **Mathematics & Applied Mathematics**
GPA: major **4.0/4.0**, overall 3.99/4.0, class ranking **1/60** , over **76%** courses rank **1** in class
Major average score **97.33%**, overall average score 96.24%
Winning 2 years' **National Scholarship** granted by Ministry of Education of China
650/710 in CET6, overtaking **99.98%** students in SCUT

RESEARCH EXPERIENCES

UCLA CSST summer research/REU: Deforestation Brazil June 2019 - Present
Funded by NGA & NSF Supervisors: Christian Parkinson, Andrea L. Bertozzi, Stanley J. Osher

- Conducted data mining, data analysis, **matlab programming** & model construction.
- Implemented **level set method**, numerical PDEs, optimal path searching, satellite image processing, **Maximum Penalized Likelihood Estimation (MPLE)**, time series simulation etc.
- **Delivered a talk** at IPAM's "The Level Set Collective" seminar invited by Professor Stanley Osher.
- **Presented a poster** at Intelligence Community Academic Research Symposium (**ICARS**) **2019**.

Robust Image Salient Object Perception Prior for Image Segmentation based on PDEs Related Methods May 2018 - Present
Funded by National Natural Science Foundation of China (NSFC) Supervisor: Delu Zeng

- Studied level set methods and **beural networks** on **semantic image segmentation**.
- Cooperated on an extension of 2018s **IJCAI paper**- MEnet: A Metric Expression Network for Salient Object Segmentation.
- **First author** of paper at workshop of **CVPR 2019: Scan-flood Fill (SCAFF): an Efficient Automatic Precise Region Filling Algorithm for Complicated Regions**.
- Worked on **lung nodule segmentation** using MEnet.
- Utilized platforms including Linux, caffe & programming in **Python**.

Efficiency of Collaborative Innovation Knowledge Output in Professional Towns in Internet + Times May 2017 - May 2018
Funded by Ministry of Education of the China Supervisors: Shifu Wang, Miaoxi Zhao, Shenquan Liu

- **Cross-disciplinary**: Mathematics & Urban Planning.
- Responsible for data mining, data analysis, paper writing (pending publication).
- **Led** the project as part of the **National Training Program of Innovation for Undergraduates**.

CONFERENCES

Berkeley Undergraduate Number Theory Conference	Attendee	Apr. 2018
European Conference on Computer Vision(ECCV) pre-conference	Attendee	July 2018
Computer Vision and Pattern Recognition(CVPR)	First author of paper at workshop CEFRL	June 2019
Intelligence Community Academic Research Symposium (ICARS)	Poster presenter	Sept. 2019

MAJOR AWARDS

Prize	2019's Arthur Erdelyi Prize (top 3 in School of Mathematics at UoE)
Prize	2019's James Ward Memorial Prize (top 1 in Mathematics & Statistics at UoE)
Second Prize	2018's ICM/MCM International Mathematical Modeling Competition
Grand Prize	2018's Mathematics Competition of South China University of Technology (Mathematics Group) (top 1)
Honor	2017-2018's one of the ten Role Model to Merit Students at SCUT
Prize	2017's & 2018's National Scholarship
Second Prize	2017's "Ninth National College Student Mathematics Competition (Mathematics)" in Guangdong
Second Prize	2017's National College Student Mathematical Modeling Competition Undergraduate Group in Guangdong
Gold medal	2014's CYCC (China Youth Creativity Competition) for creation
Silver award	2014's IENA international creation competition

COMPUTER SKILLS

Programming:	Python (Advanced) , C++ (Intermediate), VB (Basic) & Pascal (Basic)
Statistical Analysis:	R (Advanced) , SQL (Intermediate) & SPSS (Intermediate)
Modelling:	Matlab (Advanced) , Maple (Intermediate) & Xpress (Intermediate)
Paper writing:	Latex (Intermediate)

WORK EXPERIENCES

Head of Class	Sept. 2013-June 2018
----------------------	----------------------

- Conveyed notifications, organized activities & led by example.
- 2017's & 2018's South China University of Technology **Outstanding Student Leader**.
- 2016-2017's **outstanding class** of SCUT & 2017-2018's top-16 classes of SCUT.

Host of School of Mathematics in SCUT	Oct. 2016- June 2018
--	----------------------

- Hosted in 2016's Mathematics Athletics Games & 2018's Math flag-raising ceremony.

University Student Representative	May 2017-May 2018
--	-------------------

- Actively listened to students' opinions & participated in raising proposals.
- Outstanding Student Representative of South China University of Technology in 2017.

Member of Public Relationship Dept. in Math Student Union	Sept. 2016-Oct. 2017
--	----------------------

- **Led** the hosting of a social party in School of Mathematics.
- 2017's **Star** in Mathematics Student Union.

Student Assistant for School of Mathematics	Sept. 2016-Aug. 2017
--	----------------------

- Assisted in organizing materials & releasing notifications.
- Outstanding individual in work study of South China University of Technology.