ZHANG Liu

CONTACT INFORMATION	Yale-NUS College 28 College Avenue West Singapore 138533	(+65)85156883 zhangliu@u.yale-nus.edu.sg http://zhangliu6.github.io

EDUCATION

Yale-NUS College, Singapore

Bachelor of Science (Honors) (expected May 2022)

- Intended Major: Mathematical, Computational, and Statistical Sciences
- Overall GPA: 4.82/5.0; Major GPA: 4.94/5.0

ACADEMIC COURSEWORK

❑ Quantitative Reasoning
❑ Calculus
❑ Linear Algebra
❑ Proof
❑ Introduction to Computer Science
❑ Discrete Mathematics
❑ Introduction to Real Analysis
❑ Introduction to Modern Algebra
❑ Functional Programming and Proving

❑ Sanskrit (Beginning, Intermediate, and Advanced)
❑ Philosophy and Political Thought 1 and 2
❑ Literature and Humanities 1 and 2
❑ Scientific Inquiry 1 and 2
❑ Introduction to Black Holes
❑ Creativity, Imagination and Theoretical Physics

RESEARCH SKILLS

Programming	C/C++, R, Python, Julia, OCaml, Git, LaTeX
Softwares/Tools	Tensorflow, Statistical Package in Social Sciences (SPSS), Praat (Linguistics), Arduino, MATLAB, SAOImageDS9
Deep Learning	Completed deeplearning.ai specialization *(certificate)*

PUBLICATIONS

Zhang L., Ng E.Y.K. (2019) *Study of Machine Learning in Automatic Sentiment Recognition from Human Speech.* In: Arai K., Kapoor S., Bhatia R. (eds) Advances in Information and Communication Networks. FICC 2018. Advances in Intelligent Systems and Computing, vol 887. Springer, Cham. *(Paper DOI: 10.1007)*

CONFERENCES

Study of Machine Learning in Automatic Sentiment Recognition from Human Speech, 2018 Future of Information and Communications Conference, Singapore (April, 2018). *(Conference interview)*

OTHER SKILLS & INTERESTS

Languages	English (bilingual) Mandarin (bilingual) Classical Sanskrit (intermediate reading and writing proficiency) Classical Chinese (advanced reading and writing proficiency)

HONORS & AWARDS	2018 – present	**Yale-NUS Study Award**, full scholarship for undergrad education.
	2020	**Summer Academic Scholarship Award**, selective merit-based scholarship for Yale-NUS students.
	2019	**J Y Pillay Global-Asia Programme Award**, selective merit-based scholarship for Yale-NUS students.
	2017	**International Finalist** at Dongrun-Yau Science Award, highly selective competition organized by Tsinghua University.
	2017	**Silver Award**, **represented Singapore** at International Beijing Youth Science Creation Competition.
	2017	**Best Paper Award**, IRC Conference on Science Engineering & Tech.
	2017	**Gold Award** in Nanyang Research Program, two-year research for talented high school students in Singapore.
	2017, 2016, 2015	**Bronze Medalist** at Singapore National Olympiad in Informatics.
	2013 – 2017	Singapore Ministry of Education SM1/JM3 Scholarship, highly selective government scholarship to support four-year study in Singapore, including tuition and stipend.

ACADEMIC & RESEARCH EXPERIENCE	Jan 2020 – present	***Peer Tutor, Proof and Linear Algebra.***
	Jan 2020 – present	***Research Assistant, Regional Cultural Politics of PRC's New Media Technologies in Xinjiang.*** Supervisor: Shao-ling Ma, Yale-NUS College.
	Jan 2020 – present	***Persistent Homology of Semantic Spaces.*** Supervisor: Fei Han, Department of Mathematics, National University of Singapore.
	May 2020 – Aug 2020	***Numerical Exponential Polynomials.*** Supervisor: David Andrew Smith, Yale-NUS College.
	Jul 2019 – Sep 2019	***Hybrid Analytical-Numerical Integration.*** Supervisor: David Andrew Smith, Yale-NUS College.
	Jun 2019 – Jul 2019	***Digital Gazetteer Project at Yale Digital Humanities Lab.*** Supervisor: Catherine DeRose, Yale University.
	Sep 2018 – Jun 2019	***Ecological Modeling Research Cluster.*** Supervisor: Maurice Cheung, Yale-NUS College.
	Jan 2018 – Jun 2018	***Emotion recognition from electroencephalography (EEG) signals using hybrid deep neural networks.*** Supervisor: Hongliang Ren, School of Engineering, National University of Singapore.
	Apr 2016 –Dec 2017	***Application of Machine Learning in Automatic Sentiment Recognition in Human Speech*** Supervisor: Yin Kwee Ng, Eddie, College of Engineering, Nanyang Technological University.
	Feb 2017 –Jun 2017	***Multi-Perspective Research on Autism Spectrum Disorder*** and ***Neuroscience of Love*** Supervisor: Jean Liu, Yale-NUS College.

LEADERSHIP	May 2019 – present	**President** of Ashen Light Astronomy Club, Yale-NUS College.
	May 2019 – Jan 2020	**Treasurer** of Tònes Multilingual Literary Magazine, Yale-NUS College.
	2016 – 2017	**President** of Mathematics and Computing Club, Anglo-Chinese Junior College.
	2016 – 2017	**Vice-President (Talent Development)**, Science & Mathematics Council, Anglo-Chinese Junior College.
	2014 – 2015	**Prefect**, Student Council Training and Development Committee, Swiss Cottage Secondary School.