

Xiuming Zhang

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RESEARCH INTERESTS

- Computational modeling of sensory information processing (visual, auditory, etc.), learning, memory, cognition, decision making, emotion, and various other neuroscience problems
- General computer vision and machine learning

EDUCATION

BEng (ECE), **National University of Singapore**, Singapore

AUG 11 - MAY 15

- GPA: 4.97/5.00 | Ranking: 1/282 | Lee Kuan Yew Gold Medal
- GRE: V 157 (74%), Q 170 (98%), AW 4.5 (80%) | TOEFL: 113 = R 30 + L 29 + S 26 + W 28
- Thesis: *Computational modeling of brain disorder heterogeneity: an Alzheimer's case* (leading to [J1])
Committee: Profs Thomas Yeo (advisor) & Shuicheng Yan (examiner)

Exchange Student, **University of Waterloo**, ON, Canada

JAN 14 - MAY 14

- GPA (ECE): 95/100

PUBLICATIONS

- [J1] Zhang X, Mormino EC, Sperling RA, Sabuncu MR, Yeo BTT (under review) *Bayesian model reveals latent atrophy factors in Alzheimer's disease with dissociable preclinical and clinical trajectories*.
- [C2] Gao J, Zhang X, Liang H, Shen X (2014) *Joint encryption and compressed sensing in smart grid data transmission*. **Proc IEEE GLOBECOM**.
- [C1] Zhang X, Jin Y, Tan HX, Soh WS (2014) *CIMLoc: a crowdsourcing indoor digital map construction system for localization*. **Proc IEEE ISSNIP**.

HONORS & AWARDS

ISMRM Educational Stipend

ISMRM

FEB 16

Lee Kuan Yew Gold Medal (best graduate throughout)

NUS

JUN 15

IES Gold Medal (top graduating student)

IES

JUN 15

Texas Instruments Book Prize on DSP & Systems (area top)

TI

JUN 15

Faculty Innovation & Research Awards

NUS

APR 14 & 15

IEEE-HKN (Eta Kappa Nu) Honor Society

IEEE

JAN 14

IET Prize

IET

JUL 13

Rohde & Schwarz Competition Finale Travel Grant	R & S GmbH	JUN 13
Intermediate Level Certificate of German Language	NUS	MAY 13
Dean's List	NUS	11 - 13

RESEARCH EXPERIENCE

Research Engineer @ Visual Computing, Institute for Infocomm Research FEB 16 - NOW

Thesis Student & Research Assistant @ Clinical Imaging Research Center AUG 14 - JAN 16
probabilistic graphical model, linear model, voxel-based morphometry, MRI Advisor: Prof Thomas Yeo
 • Bayesian modeling of Alzheimer's disease heterogeneity revealed distinct cognitive decline trajectories as early as the preclinical stage [J1]

Research Student @ Broadband Communications Research Lab, uWaterloo JAN 14 - APR 14
compressed sensing, pseudorandom sequence, smart grid Advisor: Prof Xuemin Shen
 • Implemented a compressed sensing scheme with encryption [C2]

Research Intern @ Sense & Sense-abilities, Institute for Infocomm Research MAY 13 - NOV 13
clustering, crowdsourcing, sensor, Android Advisor: Prof Wee-Seng Soh
 • Designed and implemented an unsupervised crowdsourcing indoor map construction system that improves tracking and localization [C1]

TEACHING EXPERIENCE

Workshop Instructor @ Nanyang Technological University DEC 15
 • Introduced MATLAB basics to 40 undergraduate and graduate students in a one-day workshop

Teaching Assistant @ NUS School of Computing AUG 12 - AUG 13
 • Coached over 100 undergraduates in *CS1010E Programming Methodology* over two semesters and received very positive feedback from both the lecturers and students

COMPUTER & LANGUAGE SKILLS

Programming Language	MATLAB, C(++), Shell, Python, Android, HTML, VHDL, Assembly
Scientific Software	FSL, FreeSurfer, SPM, COMSOL Multiphysics, HFSS
Typesetting & Graphing	T _E X and friends, Adobe Illustrator
Operating System	Linux, OS X, Windows
Language	English (proficient), Mandarin (mother tongue), German (elementary)