Towards Excellence in Academia: Faculty Career in Singapore

presented by

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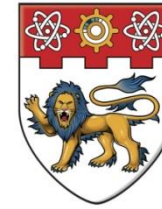
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About Me

http://StevenHoi.org/

- **Name:** <u>HOI</u> Chu Hong, Steven
- **Position:** Assistant Professor at SCE, NTU, Singapore
- **Residence:** Singapore Permanent Residence
- **Citizenship/Nationality:** Macau S.A.R., P.R. China

Education Background

- **Doctor of Philosophy (Ph.D)**
  Chinese University of Hong Kong
  Period: Aug 2004 ~ Sep 2006
- **Master of Philosophy (M.Phil)**
  Chinese University of Hong Kong
  Period: Aug 2002 ~ Jul 2004
- **Bachelor of Engineering (B.E.)**
  Tsinghua University, Beijing, China
  Period: Sep 1998 ~ Jul 2002

Employment History

- **Assistant Professor**
  School of Computer Engineering,
  Nanyang Technological University,
  July 2007 – present
- **Postdoctoral Fellow**
  Chinese University of Hong Kong
  Period: September 2006 ~ June 2007
- **Intern**
  Microsoft Research Asia, June-Sept, 2005

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Agenda

- Introduction of SCE & NTU
- Faculty Career at NTU – Personal Experience
- Take-Home Messages
- Q&A

School of Computer Engineering (SCE) NTU, Singapore
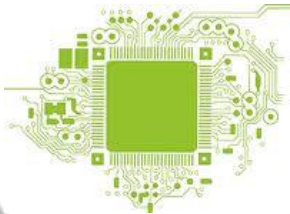
ABOUT NTU & SCE

World Rankings

- **Top 50 in QS University Rankings**
  47th place & 4th among the world's top universities below the age of 50

- QS Stars rating system, NTU was awarded the highest rating of 5 Stars in 2011 & is the **1st Asian institution to get this recognition**.
  Scoring 5 Stars for each of all key areas; research quality, graduate employability, teaching quality, infrastructure, internationalisation, innovation & knowledge transfer, third mission (community engagement) & specialist strength for Engineering & Technology.

- **5th most-cited university in Engineering**
  Essential Science Indicators of Thomson Reuters

- **4th in the world for Computer Science**
  Higher Education Evaluation & Accreditation Council of Taiwan 2011

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Research Areas of SCE

Digital Systems

Security

Software & Info Systems

Algorithms & Analytics

Computational Intelligence

Visual Understanding

Visual & Interactive Computing

Networks & Communication

Distributed Computing

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Collaborators of SCE

Industry Partners

- Microsoft Research Asia (MSRA)
- HP Lab Pte. Ltd
- Infineon
- Starhub
- TQ Global
- EADS(Singapore)
- Rolls-Royce Plc
- Motorola
- Anime International
- Apple
- Anime International Company
- Hewlett Packard Singapore
- Motorola Electronics
- Neptune Orient Lines
- Renesas Systems Solutions
- ST Microelectronics
- ST Dynamics
- Oracle
- TQ Global

Government Organisations

- Ministry of Education (MOE)
- Defence Science Organization (DSO)
- Media Development Authority (MDA)
- Ministry of Health (MOH)
- A*STAR (SERC)
- Defence Science & Technology Agency (DSTA)
- Infocomm Dev Authority of Singapore (IDA)
- The Maritime & Port Authority (MPA)

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Faculty Experience at NTU

---My Personal Experience over the past five years

Faculty Experience at NTU

---My Personal Experience over the past five years

Long-term Research Goal:

To make smart computer programs for "*learning to make our world better*".

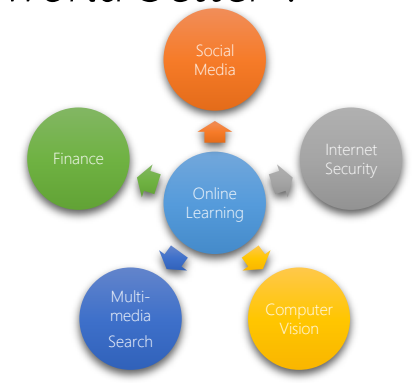## Foundation of Machine Learning and Data Mining

- Machine Learning: active learning, kernel learning, distance metric learning, online learning, semi-supervised learning, etc.
- Data Mining: big data classification, clustering, outlier detection, etc.

Multimedia Search and Information Systems

- Multimedia Information Retrieval: collaborative multimedia retrieval, content-based image/video retrieval, relevance feedback, etc.
- Social Media: Social media analytics, social image search, social media data mining, web image mining, etc.
- Multimedia Information Systems: multimedia content analysis, duplicate Image/video detection, multi-modal fusions, etc.

Knowledge Discovery and Intelligent Systems

- Computational Finance: on-line portfolio selection,
- Bioinformatics: binding hotspot prediction, protein-protein interactions
- Vision & Recognition: face alignment & annotation, object tracking.

100+ publications in top tier conferences and journals

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Faculty Experience at NTU

---Towards Excellence in Research

Making Research as a Priority

Good research is the key to succeeding in academia

- **Good research work** is always the most important in academia
- Publish your research results in **reputable** venues
- Be **open-minded** for research **collaborations**
- Be **proactive** in seeking research funding opportunities
- Singapore has **rich** funding sources, but not always easy

Building Your Research Team

To build a healthy and productive R&D team

- To **recruit good students** and research staff (not easy to get top talents)
- **Reputation** is crucial for getting better students in the long term
- Inspire students & staff to be **self-motivated**; good students never need a push
- **Teach** students in accordance with their **aptitude** (因材施教)
- Be **kind** to students, **hands-on** supervision, inspire them for **independent** research

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Faculty Experience at NTU

---Towards Excellence in Teaching

Passion in Teaching
Enjoying your faculty life as a good teacher

- Being a university faculty member is a **unique** job
- **Passion** takes a teacher from being merely good to great
- Keep your teaching materials **up-to-date**
- Share **your unique research** knowledge & experiences

Humble to Improve Skills
Teaching : no best, only better

- To be **inspirational** teachers: Intelligence, knowledge, a variety of skills, etc
- Patient to listen **students' feedbacks**, keep students engaged
- Improve your **personal ability** in teaching constantly
- Humble to learn better skills by **consulting senior** teachers

Faculty Experience at NTU

---Towards Excellence in Service

Increasing Visibility

To be visible both locally and internationally

- **Internal** visibility: The more you help the advancement of your colleagues & your school, the more you become a valued faculty member
- **External** visibility: attendance at international meetings, organizing services for your research communities, and give seminars and presentations at international venues

About Politics

In academia, good science, not politics, always wins

- If politics means forming **collaborations** and generally getting along with people by having healthy communications, then it plays a **valuable** role in advancing a career.
- But politics **cannot substitute** for good science;
- Always focus on doing, not just talking.

Take-Home Messages to Junior Faculty

- Focusing on research as a priority

- Being passionate in good teaching

- Increasing visibility internally and externally

- Proactive for collaborations

- More communication, less politics

Research

Excellence in Academia

Teaching

Service

Thank you!

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