

CANDIDATE INFORMATION

Name: Zexiang Li

IEEE membership number: 04865002

POSITION SOUGHT

ROS AdCom

BIOGRAPHY

(Provide a biographical statement. This statement should be no longer than 150 words, exclusive of your IEEE activities.)

Zexiang received his B.S. degree from Carnegie-Mellon University, M.A. and Ph.D. degree from the UC Berkeley. He worked as a research scientist in the AI Laboratory of MIT and as an assistant professor in the Robotics and Manufacturing Laboratory of the New York University. In 1992, he took his current position as the Professor of the Department of Electrical and Computer Engineering at the HKUST. He received the National Natural Science Award (3rd class) from China, the Research Initiation Award from the National Science Foundation, the University Scholar Award from Carnegie-Mellon University, the E.I. Jury Award and the E. Anthony Fellowship from UC Berkeley, and the Fellowship from the ALCOA Foundation. He co-founded many successful technology companies including DJI, the world's largest manufacturer of drones. He established Songshan Lake Xbot Park, Changsha Intelligent Driving Institute (CiDi) and many more robotic incubators and research centers in China.

IEEE ACTIVITIES

(List your IEEE positions in the following order in point form)

1. IEEE RAS Award Committee, Jan 2012.

ICRA

2. General Chair, ICRA 2011
3. Session chair, ICRA 1996, 2001, 2002, 2003, 2007
4. Co-chair, Best Manipulation Paper Award Committee, ICRA 2006
5. Committee for Best Conference Paper, ICRA 2004.
6. Program Committee, ICRA 1999, ICRA 2000, ICRA 2001, ICRA 2002, ICRA 2003, ICRA 2004.

IROS

7. Exhibition Chair, IROS 2006.
8. Regional Chair, IROS 2005
9. Session Chair, IROS 2001
10. Program Committee, IROS 1999, IROS 2001, IROS2002, IROS 2003, IROS 2004

CASE

11. Best Conference Paper Committee, CASE 2007

ACC

12. Program Committee, ACC 1999

Editor/Reviewer

13. Associate editor, IEEE Trans. on Robotics and Automation, Dec. 2001 - Dec 2004.

14. Reviewer for

- IEEE Trans. on Automatic Control
- IEEE Trans. on Control System Tech.
- IEEE Trans. on Robotics and Automation

QUALIFICATIONS

(What are your qualifications for this position? i.e., what makes you an ideal candidate for this position?)

Zexiang was just selected as the recipient of the 2019 IEEE Robotics and Automation Award.

Zexiang pioneered the study of robotic manipulation especially with multi-fingered robotic hands: his work has played a fundamental role in shaping and nurturing the field of robotic manipulation and provided much of the basis for the authoritative textbook “A Mathematical Introduction to Robotic Manipulation” (CRC Press 1993). He is best known as the originator of nonholonomic motion planning (NMP), now a very active field of robotics research with widespread applications.

Zexiang has excellent track record for pushing forward the Asian robotic development. He cofounded several successful companies including DJI: DJI’s innovation, design expertise, vertical integration and global branding and distribution were the first for a Chinese company. He also takes responsibility for motivating youngsters to get involved in robotics technology. His establishment of many robotics incubators and research centers in China including Songshan Lake Xbot Park, Changsha Intelligent Driving Institute (CiDi) and Hong Kong X-Tech Startup Platform largely contributes to China’s growth of becoming a new global smart hardware innovation hub. Zexiang helped create a healthy ecosystem for sustainable robotics development in China and beyond, promising further innovation and creation of other DJI-like robotics companies.

Zexiang’s uncompromising commitment to academia and remarkable record of success in entrepreneurship qualify him as a good contributor in IEEE RAS Administrative Committee. He has a good understanding of both IEEE RAS researchers’ and industrial practitioners’ needs and how to foster the development and knowledge exchange in robotics and automation. His wide connections with industries, governments and NGOs can help IEEE RAS continue to be the most recognized organization in Robotics and Automation to benefits members, the profession and humanity.

MAJOR ACCOMPLISHMENTS

(List the major contribution(s) (up to five) you have brought to IEEE in your previous assignments. If you have not volunteered for IEEE before, list relevant contributions you have made with other organizations or in related work experience.)

- Serving as RAS award committee to determine the best award candidates
- Dedicated to organizing different IEEE conferences including ICRA, IROS and CASE in different organizing chair roles
- Actively promoting IEEE conferences and events among different industries and NGOs
- Active reviewer and editor for IEEE Transactions on Robotics and Automation for many years

POSITION STATEMENT

(If elected to the position, what are your plans and how will they help support the mission of IEEE RAS;
Up to 500 words)

Robotics technology continues to play an important and growing role in our lives. As a leading organization in robotic research and technology for the benefit of humanity, IEEE RAS is uniquely positioned as the center to gather the extraordinary robotic elites and experts. The development of robotics and automation technology is growing rapidly throughout the world. To maintain IEEE as the most recognized and respected global organization in the field of robotics and automation, IEEE should continue its own interactions and engagements with different industries and organizations. With my cross-cultural experience in robotic entrepreneurship, innovation and education, I would focus on:

- **Expanding partnering with the industry groups that share our interests.** More small-to-mid-sized companies without their own R&D should be encouraged to participate in IEEE activities. The conference or workshops can motivate them to leverage IEEE research knowledge and latest information to resolve their existing operational difficulties, or even initiate their own R&D. More non-robotic companies and organizations should also be invited to participate in our events, in hope of facilitating the explorations of possible robotic applications in greater variety of industries.
- **Encouraging engagements between IEEE researchers and robotic.** IEEE will continue to organize various workshops and exhibitions for members to interact with different industrial experts in robotics and automation. Our researcher members can leverage the market information relevant to their expertise to advance their research outcomes to industrial applications. This can also attract young researchers and industrial practitioners who are actively seeking networking opportunities and market information to join in IEEE RAS.
- **Enhancing interactions with governments and NGOs to foster robotic education:** Robotics is widely neglected from the early stage education curriculum. Collaborating with governmental units and NGO, IEEE should actively promote the importance and benefits of robotics education and thus cultivate students' interests in robotics and automations. Early introduction of robotics to students can maintain sustainable robotics development via motivating more teenagers to get involved in autonomous technologies.
- **Empowering our communities and creating more intangible value for members:** This can be achieved by providing trainings more relevant to their career aspirations; assisting their continuing education and certification, supporting career development based on the industrial needs, and helping them locate quality technical information rapidly.

As an enthusiastic scientist and entrepreneur with cross-area research and industrial experience in robotics and automation, I am fully committed to serve IEEE RAS to bring out the best in our organization.

COMMITMENT TO SERVICE

I, _____ Zexiang Li _____, hereby certify that if elected, I will serve in the position to which I am elected for the term of the office.