

## Zhe (Joseph) Xu

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### EDUCATION:

- Master of Science, Bioengineering, University of Hawaii at Manoa, Honolulu, HI (December, 2007). GPA: 3.6
- Bachelor of Engineering, Mechanical Engineering, China Agricultural University (CAU), Beijing, China (June, 2004). GPA: 3.8
- GRE test: v: 600, q: 780, w: 4.0

### RESEARCH & DESIGN EXPERIENCE:

- **Healthcare robotics** (August 2007~ August 2008, Georgia Institute of Technology): Autonomous healthcare robot manipulation and human-robot interaction.
- **Novel Multi-Airlifting Membrane Bioreactor** (August 2005~May 2007, University of Hawaii at Manoa): Design and modeling the novel bioreactor based on hydrodynamic experiments. The bioreactor can be applied to produce biodegradable thermoplastics from organic waste.
- **Inoculation Machine** (March 2003~February 2004, China Agricultural University) Design, prototype and fabricate the automatic machine to reduce time-consuming and highly repeated work of inoculation process in biology labs. The machine is able to run consecutively and reduce the operation time from 3 minutes (handwork) to less than 20 sec.

### SKILLS:

- **Language:** English/Chinese (Mandarin)
- **Software:** AutoCAD, Pro/E, Solidworks, 3ds max, Fluent (CFD software), C++, Python, LabVIEW,
- **Hardware:** PLC controlling, AC servo/step motor controlling, pneumatic system design, prototyping,
- **Biology:** cell cultivation; chemical analysis; bioreactor design.

### HONORS AND AWARDS:

- First prize in National Contest of Mechanical Innovation of universities in China, Aug. 04; (Inoculation Machine)
- First prize in Mechanical Innovation Contest of universities in China capital, June, 04; (Inoculation Machine)
- Scholarship, special prize, CAU, all through 2001~2003.

### PUBLICATIONS AND PATENT:

- Hai Nguyen, Cressel Anderson, Alexander J. Trevor, Advait Jain, Zhe Xu, and Charles C. Kemp. EI-E: An Assistive Robot that Fetches objects from Flat Surfaces. HRI Workshop on Robotic Helpers: User Interaction, Interfaces and Companions in Assistive and Therapy Robots, 2008
- Charles C. Kemp, Cressel Anderson, Hai Nguyen, Alexander J. Trevor, and Zhe Xu. A Point-and-Click Interface for the Real World: Laser Designation of Objects for Mobile Manipulation. In 3rd ACM/IEEE International Conference on Human-Robot Interaction (HRI) 2008
- Zhe Xu and Jian Yu. Hydrodynamics and mass transfer in a novel multiple airlifting membrane

bioreactor. *Chemical Engineering Science* 63:1941-1949, 2008.

- Zhe Xu and Tiezhong Zhang, Design and control of inverted pendulum system by means of PLC technology, *Journal of China Agricultural University*, 10 (3), 2005 (In Chinese)
- Inoculation machine, China patent application NO. ZL200410042879.2I.

REFERENCES: available upon request