

Jingwei Zhu

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Summary of Qualifications

- Proficient in air conditioning and refrigeration system design and validation
 - Hands-on experience with test rig setup and control system design
 - Strong skills in thermal system analysis, 3-D CAD modeling, CFD and programming
 - Outstanding communication and presentation skills, self-motivated and good team worker
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Research Experience

- **COP and Capacity Improvements through Energy Recovery by Ejector**

Sept. 2013 – present

Graduate Research Assistant

Air Conditioning and Refrigeration Center, UIUC

- Proposed and designed a new ejector with controllable swirl in the upstream of the motive nozzle which can be utilized to optimize the condenser pressure and subcooling in an ejector cooling cycle according to the changing working conditions in order to improve COP and capacity.
 - Designed and manufactured a transparent swirl nozzle with Solidworks and rapid prototyping machines. Designed and built the test rig for the investigation of choked flow characteristics of low quality or subcooled swirling flow through a convergent-divergent nozzle.
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Working Experience

- **Daikin/Goodman Manufacturing**

May-Aug. 2016

Advanced Technology Intern

Houston, TX, USA

- Design Failure Mode and Effect Analysis (DFMEA) of residential microchannel heat exchanger.
 - Major investigated failure modes: leakage; frosting; inefficient defrost; charge sensitivity.
 - Compiled design and manufacturing guideline for residential microchannel heat exchanger.
 - Key issues: microchannel tube and fin design to achieve optimal heat transfer, pressure drop and water drainage performance; microchannel heat exchanger brazing.
 - Transient air conditioning system modeling using Simulink.
 - Microchannel & round tube heat exchanger and air conditioning system simulation with CoilDesigner and VapCyc.
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Education

- **University of Illinois at Urbana-Champaign**

Sept. 2013-pres.

Doctor of Philosophy in Mechanical Engineering

Expected May 2018 Current GPA: 3.95/4.0

- Coursework included: Numerical Thermo-Fluid Mechanics, Convective Heat Transfer, Intermediate Thermodynamics, Intermediate Gas Dynamics, Refrigeration and Cryogenics, Control System Theory & Design, Advanced Motion Control.

- **The University of Hong Kong**

Sept. 2011-Jun. 2013

Bachelor of Engineering in Mechanical Engineering (First Honour)

Awarded July 2013 Cumulative GPA: 3.86/4.3

- Recipient, Fong's Project Prize in Mechanical Engineering, 2013.
- Recipient, The University of Hong Kong Undergraduate Research Internship Awards, 2012.

- **Shanghai Jiao Tong University**

Sept. 2009-Jun. 2011

Bachelor of Science in Mechanical Engineering (Honors Class) Awarded July 2013 Major GPA: 3.76/4.3

- Recipient, Academic Excellence Scholarship of Shanghai Jiao Tong University, 2010.
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Core Technical Skills

Programming Languages: C, C++, Python, MATLAB, LabVIEW, LATEX, EES.

Software: Unigraphics, SolidWorks, ANSYS Fluent.