

EDUCATION

Ph.D. Mechanical Engineering GPA: 3.95 , Ranking: \	UIUC	2017.Sep-Recent
M.S. Human-Machine and Environment Engineering GPA: 89/100, Ranking: 3/32	Beihang University	2014.Sep-2017. Mar.
B.S. Aircraft Environment and Life Security Engineering GPA: 87/100, Ranking: 2/40	Beihang University	2010.Sep-2014.June

RESEARCH EXPERIENCE

Numerical and Experimental Research of Carbon Dioxide Heat Pump for Mobile AC/HP Applications Ph.D. Thesis Topic		November.2017 - Recent
<ul style="list-style-type: none"> Built a R744 heat pump system for automobile applications and the data acquisition, reduction programs Finished the system performance evaluation experiments in both AC/HP modes and modeling of key components using EES considering oil effects Working on the frosting/defrosting experiments of the system and effects of outdoor coil orientation 		
Numerical and Experimental Research of Large Droplets Breakup Regimes Master Thesis Topic		October.2015 - March.2017
<ul style="list-style-type: none"> Simulated the breakup process of a large droplet(620μm) in the Bag- and Shear breakup Regime via FLUENT Analyzed the morphological characteristics and transient properties Designed droplets generator and conducted experiments to observe different breakup regimes Processed images of droplets with MATLAB and analyzed the distribution of the child droplets 		
Experimental Research on Thermal Characteristics of Loop Heat Pipe Bachelor Thesis Topic		September.2013 - June.2014
<ul style="list-style-type: none"> Designed a loop heat pipe system applied in anti-icing system via CATIA and checked the design results Conducted the starting-up and running experiments under various work conditions Analyzed the temperature-time curves and the system performance 		
Air Quality Monitoring and Control System Based on the Arduino Microprocessor National Student Research Training Program(SRTP)		May 2013 - March.2014
<ul style="list-style-type: none"> Designed a cylindrical particulate filter and an air quality monitoring and control system with particle, temperature & humidity sensors and Arduino UNO microprocessor Connected the system to the Internet and realized remote-monitoring and control functions 		

PUBLICATION

- Zhang, W., & Hrnjak, P. (2021). The Performance of an Automotive Carbon Dioxide Heat Pump System in Frosting and Defrosting (No. 2215). 18th International Refrigeration and Air Conditioning Conference at Purdue.
- Zhang, W., & Hrnjak, P. (2021). Numerical investigation of carbon dioxide and POE oil mixture behavior in an accumulator in trans-critical heat pump mode (No. 2216). 18th International Refrigeration and Air Conditioning Conference at Purdue.
- Zhang, W., & Hrnjak, P. (2020). Modeling of an Integrated Internal Heat Exchanger and Accumulator in R744 Mobile Air-Conditioning Applications (No. 2020-01-0153). SAE Technical Paper.
- Zhao, Y., Chang, S., Yang, B., Zhang, W., & Leng, M. (2017). Experimental study on the thermal performance of loop heat pipe for the aircraft anti-icing system. International Journal of Heat and Mass Transfer, 111, 795-803.
- Zhao, Y., Chang, S., Zhang, W., & Yang, B. (2016). Experimental research on thermal characteristics of loop heat pipe with liquid guiding holes. Applied Thermal Engineering, 101, 231-238.

SKILLS/QUALIFICATIONS

- Highly skilled in ANSYS Fluent, EES, MATLAB, CATIA, Autodesk Inventor, AutoCAD and Microsoft Office

EXTRACURRICULAR EXPERIENCE

- Intern in Facebook Hardware Engineering Team (Austin, TX): 1) perform CFD analysis to solve thermal challenges in the server systems in FloTHERM and conduct wind tunnel analysis; 2) work on remote test infrastructure through the use of SHELLscript; 3) provide input on Fan Speed Control (FSC) algorithm optimizations; 4) publish test reports and communicate findings to team members
May-Aug 2021
- Intern in General Electric Global Research Center (Shanghai): help design and improve products with the knowledge and skill of multiphase-flow simulation
March-July 2017
- Volunteer in Starfish Orphanage, Xi'an, Shaanxi Province
January 2012- February 2012

HONORS/ACTIVITIES

Ph.D.	• Kritzer Fellowship & Louis J. Larson Fellowship		2017
M.S.	• Excellent Graduate	top1	2017
	• Excellent Student Cadres of Beihang University	top2	2015-2016
	• The First Prize Scholarship & Outstanding Graduate Student	top2	2014-2015
B.S.	• Outstanding Graduate & Outstanding Graduation Thesis	top1	2013-2014
	• Scholarship of Jintuo & excellent in Student Research Training Program	top2	2013-2014
	• Outstanding Academic Performance Scholarship & Outstanding Student	top1	2012-2013
	• Outstanding Academic Performance Scholarship & Merit Student	top2	2011-2012