

Sugun Tej Inampudi

405 East Stoughton Street #26, Champaign, IL | (217) 721-7936 | sti2@illinois.edu | linkedin.com/in/suguntej

EDUCATION

- **University of Illinois at Urbana-Champaign** **Champaign, USA**
PhD in Mechanical Engineering; GPA: 4.0/4.0 *Aug 2024*
 - **Coursework:** Computer Control of Mech Systems, Energy Conversion Systems, Design of Thermal Systems, Numerical Thermo-Fluid Mechs, Refrigeration and Cryogenics, Intermediate Heat Transfer, Multiphase Systems and Processes, MEMS Theory and Fabrication
- **Birla Institute of Technology and Science Pilani** **Pilani, India**
Bachelor of Engineering (Hons.) in Mechanical Engineering; GPA: 9.70/10.0 *Jul 2018*

RESEARCH EXPERIENCE

- **Comparison of Capacity Modulation Strategies with Focus on Efficiency** **Nov 2018 – Present**
Advisor: Prof. Stefan Elbel, UIUC *Supported by ACRC Project 424*
 - A comprehensive system study was conducted comparing different compressor capacity modulation techniques
 - Designed and built a R410A water chiller to compare the different capacity modulation approaches for a fair comparison
 - A reliable, model supported set of results were presented which aid in designing and selecting the capacity modulation equipment
 - The focus of this experimental investigation will also include parameters such as heat exchanger sizing, superheat/subcooling control
- **Entropy generation in water based natural circulation loop** **Jan 2017 – May 2017**
Research Project guided by Prof. Satyabrata Sahoo, BITS Pilani
 - Modeled "Natural Circulation Loop" using ANSYS Fluent and performed steady state simulations for different boundary conditions
 - Studied the variation of Entropy Generation, Second Law Efficiency and Heat transfer for various loop parameters
 - Successfully determined optimum loop parameters based on ratio of Heat Transfer to Irreversibility in the system

RELEVANT EXPERIENCE

- **Ecozen Solutions Private Ltd** **Pune, India**
Thermal Test Engineer (Intern) *Jan 2018 – Jun 2018*
 - Involved in the design and testing of various components of Ecofrost, a micro-cold storage
 - Conducted experiments to determine the air flow rate required to achieve the required precooling
 - Experimentally determined the feasibility of HDPE (High-density polyethylene) as a container material for Thermal Energy Storage
- **Vishakapatnam Steel Plant** **Andhra Pradesh, India**
Summer Intern *May 2016 – July 2016*
 - Analyzed and reviewed the production of shafts which also included Iron Making in Blast Furnace, Steel Making in Steel Melt Shop, Rolling of Billets, Forging of Rounds and Machining of Shafts

TEACHING EXPERIENCE

- **Graduate Teaching Assistant – University of Illinois at Urbana-Champaign** **Aug 2018 – Present**
Course: Statics, Heat Transfer, Calculus II, Thermodynamics, Refrigeration and Cryogenics
- **Undergraduate Teaching Assistant – BITS Pilani** **Aug 2017 – Dec 2017**
Course: Advanced Mechanics of Solids

VOLUNTEER EXPERIENCE

- **Secretary – ASHRAE TC 10.6 Transport Refrigeration** **Jan 2021 – Present**
Participate in the TC bi-annual meetings and note minutes of the meeting

PUBLICATIONS

Peer-Reviewed Journal

- **Sugun T. I.**, Baji M., Satyabrata S., "Entropy generation in water based Natural Circulation Loop", Journal of Heat Transfer, May 2018

International Conferences

- **Inampudi S.**, Botticella F., Elbel S., 2021, "Modeling and comparison of different capacity modulation strategies with focus on seasonal performance," 12th International Conference on Compressors and their Systems, London, UK, September 6-8, Paper 185 (online participation)
- **Inampudi S.**, Botticella F., Elbel S., 2021, "Part load performance of single and two stage compressors – a comparative experimental study in a R410A chiller unit," 12th International Conference on Compressors and their Systems, London, UK, September 6-8, Paper 184 (online participation)
- **Inampudi S.T.**, Botticella F., Elbel S., 2021, "Experimental comparison of seasonal performance in R410A chiller using single speed and two stage compressor," 18th International Refrigeration and Air Conditioning Conference at Purdue, West Lafayette, IN, USA, May 23-28, Paper 1484 (online participation)

TECHNICAL SKILLS

- **Computer Skills:** EES, ANSYS Fluent (Beginner), MATLAB (Beginner), AutoCAD, Solidworks
- **Programming Skills:** C Language
- **Lab Equipment:** Cleanroom, Photolithography and Brazing

HONORS AND AWARDS

- Included in the List of Teachers Ranked as Excellent, University of Illinois at Urbana-Champaign (Spring 2019, Fall 2019, and Fall 2020)
- Awarded MCN Scholarship of highest grade by Birla Institute of Technology and Science Pilani for academic excellence for eight consecutive semesters, 2014 – 2017
- Ranked second in the Mechanical Engineering undergraduate class of 2018