

## BEST Center Student Highlight Questions

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**1. Tell us about your background and how you got to where you are today.**

I have a background in Architecture. I completed my undergraduate studies at Jadavpur University in Kolkata, India, and then pursued a Master of Science in Architecture at The Pennsylvania State University. During my time at Penn State, I developed an interest in HVAC control systems and became intrigued by the potential of using AI in building controls. This fascination led me to pursue a PhD program to delve deeper into the subject matter and conduct research on using making reinforcement learning approach practical for building controls.



**2. What got you interested in research, and why are you interested in the BEST Center research you are doing?**

The rise and achievements of AI has been fascinating to witness from the mid 2010's with the success of AI in AlphaGo, image recognition, medical diagnostics, finance, transportation, and entertainment. AI gained increasing attention from industry, academia, and the public. This also intrigued led me to my interest in a topic that I was already interested in, building energy management. The BEST center has assisted in providing financial assistance to conduct research on new intelligent building technologies, bridge the gap between research and implementation and ensuring that the findings have a tangible impact on the real world. This stemmed from my interest in the BEST Center research work on utilizing reinforcement learning for building energy management.

**3. Where do you see your project going in the future, and/or how will working on this project help your career in academia and/or industry?**

The research will aid other researchers/building controllers in using advanced controls without relying on detailed building modeling effort for each and every building. There are a lot of uncertainties among building modeling and reinforcement learning seems promising as it can uncover patterns and find the near optimal solution from interacting with a building.

**4. What are your career ambitions?**

My goal is to make a tangible impact on the practical implementation of advanced building controls, witnessing the wide-ranging benefits they bring. I am driven by the prospect of saving energy, enhancing the daily operations of building occupants, and enabling buildings to actively contribute to the grid while supporting demand response programs. To achieve this vision, I aspire to work in national laboratories, where I can collaborate with fellow experts and leverage their resources to further my research and development efforts. Alternatively, I am drawn to firms specializing in AI-driven building energy management,

where I can actively contribute to the implementation of innovative solutions that drive energy savings and efficiency. I aim to be at the forefront of transforming the way buildings operate and contribute to a greener future, benefiting both the environment and the occupants of these buildings.

**5. What is an interesting fact about you?**

I enjoy going on long hikes or jogging to clear my mind, probably listening to Pink Floyd or Radiohead.