**Abhishek Joshi**

abhishekjoshinj@gmail.com | (732) 501-9753 | [www.linkedin.com/in/abhishek-joshi-4ab469180/](http://www.linkedin.com/in/abhishek-joshi-4ab469180/)

**EDUCATION**

**Princeton University GPA: N/A**

*M.S.E. in Computer Science*  August 2024 – May 2026

**University of Texas at Austin GPA: 3.935/4.0**

*B.S. Honors in Computer Science,* ***Turing Scholars Program*** August 2020 – May 2024

*B.S. in Mathematics*  August 2020 – May 2024

**Coursework**: Honors Algorithms, Honors Operating Systems, Honors Computer Architecture, Honors Principles of Machine Learning, Honors Data Structures, Neural Networks, Natural Language Processing, iOS Development

**WORK EXPERIENCE**

**Google DeepMind Remote**

***Software Engineering Contractor*** August 2023 – Present

* Contributed to MuJoCo physics simulator by integrating **Python** scripts capable of converting MuJoCo scenes to USD format.
* Single-handedly created pipeline to efficiently generate high quality graphics renderings using Nvidia Omniverse and Blender.
* Communicated closely with several researchers and engineers to identify pain points of current physics engine.

**Amazon Web Services Redmond, WA**

***Software Engineering Intern*** May 2023 – August 2023

* Developed internal memory management tool in **C** for AWS Aurora team to identify memory leaks in **PostgreSQL** engine.
* Created automation suite to analyze current PostgreSQL tests using tool to identify potential memory-related issues.
* Improved average SEV2 ticket investigation time from several days to 30 minutes using developed tool.
* Designed automation scripts in **Python** to help engineers cherry pick commits from open source to internal code base.

**Paycom Grapevine, TX**

***Software Engineering Intern*** May 2022 – August 2022

* Spearheaded reporting and time tracking application using **C#**, **React.js**, and **MySQL** to help organize teams’ agile sprints.
* Led efforts to build new API for storing client preferences for viewing organizational charts using **PHP**, **JavaScript**, and MySQL.
* Awarded MVP at company codeathon for leading team, managing full tech stack, and handling application deployment.

**RESEARCH**

**Robot Perception and Learning Lab Austin, TX**

***Advisor: Dr. Yuke Zhu****,**Researcher, Core Member of Robosuite Development Team*September 2020 – June 2024

* Integrated ray-tracing capabilities to the original Robosuite simulation resulting in acquisition of higher quality training data.
* Wrote transformer-based object-centric vision model using **PyTorch** for robots to complete long-horizon tasks.
* Formulated scripts to convert natural language commands to sequence of executable robot actions.
* Focused on procedural scene and task generation with GANs and LLMs and their effects on robot learning models.

**PROJECTS**

**Vibes Austin, TX**

***Team Lead/iOS Mobile Application Developer*** September 2023 – December 2023

* Built full stack social media mobile application capable of integrating with Spotify API using **SwiftUI**
* Included features such as posting with music, song recommendations, friend requests, viewing most listened to tracks, etc.
* Worked with **Firebase** in the back end and optimized image retrieval for quicker response times.

**UT Austin AI WebsiteAustin, TX**

***Software Engineer*** January 2021 – September 2022

* Single-handedly revamped and administered entire UT AI website, rewriting entire codebase in **JavaScript**, porting data to cloud services such as **MongoDB Atlas** and **AWS S3,** and improving overall system performance by over 300%.
* Interacted with multiple faculty members and doctoral candidates to get requirements for new website design and interface.

**SKILLS**

**Programming Languages**: Python, C++, C, Java, JavaScript, Swift, C#, CMake, Matlab, Verilog, Bash, LaTeX, SQL, HTML, CSS

**Tools and Frameworks**: AWS, MongoDB, Firebase, MySQL, Postgres, Linux, PyTorch, TensorFlow, NumPy, MuJoCo, React.js, GDB

**PAPERS**

[1] **A. Joshi**, S. Nasiriany, Y. Zhu. Utilizing Diverse and Scalable Simulation for Mobile Manipulators in Human-Centric Environments. *University of Texas at Austin, Undergraduate Honors Thesis*, 2024.

[2] S. Nasiriany, A. Maddukuri, L. Zhang, A. Parikh, A. Lo, **A. Joshi**, A. Mandlekar, Y. Zhu. RoboCasa: Large-Scale Simulation of Everyday Tasks for Generalist Robots. In *Robotics: Science and Systems*, 2024.

[3] Y. Zhu, **A. Joshi**, P. Stone, and Y. Zhu. Viola: Object‑centric imitation learning for vision‑based robot manipulation. In *6th Annual Conference of Robot Learning (CORL)*, 2022.

[4] Y. Zhu, J. Wong, A. Mandlekar, R. Martín‑Martín, **A. Joshi**, S. Nasiriany, and Y. Zhu. Robosuite: A modular simulation framework  
and benchmark for robot learning. In arXiv preprint arXiv:2009.12293, 2020.