

# Oscar Rodriguez

Austin, TX

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## EDUCATION

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- **Texas State University** San Marcos, TX  
*Bachelors of Science in Computer Science* *Expected: Spring 2027*
- **Austin Community College** Austin, TX  
*Bachelors of Science in Computer Science* *Fall 2023 - Fall 2025*

## RELEVANT COURSEWORK

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- Calculus I & II
- Discrete Math I & II
- Foundations of Computer Science I & II
- Physics I
- Data Structures and Algorithms
- Foundations of Computer Programming

## ACADEMIC PROJECTS

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### Relevant Academic Projects & Coursework

- **Data Structures and Algorithms Projects:**
  - Designed and implemented core algorithms (sorting, searching) and data structures in C++, focusing on time/space complexity analysis ( $O(N)$  notation).
  - Developed functional implementations of binary search trees, heap structures, and dynamic arrays to solve complex data storage and retrieval problems.
  - Practiced advanced C++ techniques, including template programming and recursive function definitions, enhancing proficiency in highly efficient tasks.
- **Foundations of Computer Programming Project:**
  - Mastered core Python concepts, including the Python Data Model (dunder methods) and iterator/generator implementations, ensuring optimized and memory-efficient code execution.
  - Developed strong proficiency in using Python for foundational tasks, emphasizing code organization and the manipulation of data structures necessary for scripting and data processing in a research environment.
  - Successfully designed and implemented a application in Python that fulfilled complex employer specifications, demonstrating testing and code stability (project linked above).

## TECHNICAL SKILLS

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**Languages:** Python, C++, R

**Data Analysis:** SQL, NumPy, Pandas

**Hardware & Systems:** Linux/UNIX, Bash, git