

# Carlos Aldana Lira

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## Education

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2021–2025 (exp.) **B.S., Middle Tennessee State University** in Computer Science (Professional Concentration). *Minors:* Interactive Media, University Honors. 4.0 GPA

## Research Experience

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- Spring 2024–Present **Undergraduate Researcher.** *Middle Tennessee State University, Undergraduate Honors Thesis.* Proposed and designed original research investigating novice programmers' conceptual resources in introductory programming classrooms. Currently in progress. *Thesis Director: Dr. Tasha Frick.*
- Summer 2024 **Undergraduate Research Assistant.** *University of Washington, Center for Learning, Computing, Imagination.* Conducted research in justice-centered computing education by designing, conducting, and qualitatively analyzing focus groups with stakeholders for *Wordplay*, an educational programming language. *Principal Investigator: Dr. Amy J. Ko.*
- Summer 2023 **Undergraduate Research Assistant.** *Middle Tennessee State University, Undergraduate Experiential Training.* Conducted original research quantitatively investigating the efficacy of LSTM and gradient-boosted ensemble models to predict the next-day price of Bitcoin. *Supervisor: Dr. Ramchandra Rimal.*

## Teaching Experience

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- Fall 2024 **Learning Assistant.** *Middle Tennessee State University.* Peer mentoring students in an introductory chemistry course using evidence-based teaching and learning techniques. *Supervisors: Dr. Katy Hosbein and Dr. John Paul DiVincenzo.*
- Spring 2024 **Learning Assistant.** *Middle Tennessee State University.* Peer-mentored students in an introductory biology course using evidence-based teaching and learning techniques, designed assessments for student learning, and directed a class session. *Supervisors: Dr. Katy Hosbein and Dr. Grant Gardner.*

## Posters

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- 2024 **Wordplay: Accessible, Multilingual, Interactive Typography.** Amy J. Ko, Carlos Aldana Lira, and Isabel Amaya. DUB REU Poster Session. University of Washington, Seattle.
- 2023 **Bitcoin Price Prediction Using Machine Learning.** Carlos Aldana Lira and Ramchandra Rimal. Chemistry Research Using X-Ray Methods and Undergraduate Experiential Training Summer Poster Session. Middle Tennessee State University.

## Awards & Honors

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- 2023 **Outstanding Sophomore Award.** Middle Tennessee State University Computer Science Department.
- 2023 **General Education Writing Awards. 2nd Place.** Middle Tennessee State University English Department.
- 2022 **Outstanding Freshmen Award.** Middle Tennessee State University Computer Science Department.