

< NATALIA MORA />

Hi, I'm Natalia! 🙌

Dedicated AI/ML researcher, dynamic speaker, and proactive student leader passionate about democratizing AI/ML education for all. 🧠 Proficient in Python, AWS, and deep RL research, with a solid foundation in cloud infrastructure and back-end software engineering. 💻 1st-gen Latina in tech committed to engineering elegant, innovative, and data-driven solutions that prioritize equity, global impact, and human-centered values. 🌎 Anticipating B.Sc in Computer Science in May 2024.



CONTACT ME

SEE MY RESUME



What I do

I explore various tech stacks for AI/ML research and software engineering, tapping into their overlaps to unearth key insights.



Python



PyTorch/Tensorflow



SQL/DBs



AWS



Java



C/C++/C#



Node.js



React.js



Docker



RESTful API



CI/CD



Git



Bash



JavaScript



HTML5



Ubuntu



Linux

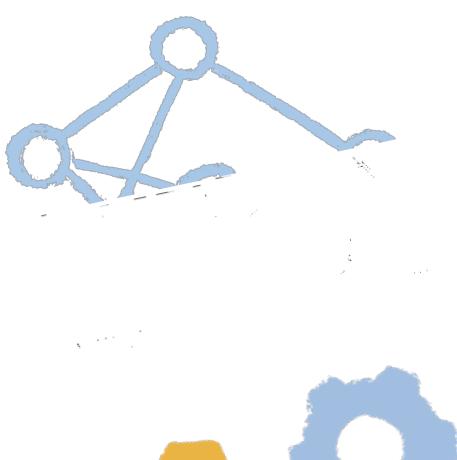


Figma



R

- ⚡ Implement cutting-edge machine learning algorithms to analyze complex datasets and derive actionable insights
- ⚡ Architect scalable cloud infrastructure solutions using AWS services to optimize performance and reliability
- ⚡ Develop data pipelines and automation workflows using Python and SQL to streamline data processing and analysis tasks





Education



University of Oklahoma
Bachelor of Science in Computer Science
August 2020 - May 2024

- learning, artificial neural networks, and large language models.
- Co-Creator of award-winning annual OU AI/ML Symposium, showcasing original AI/ML research projects by OU students. Supported by industry leaders like IBM, Walmart Global Tech, Morgan Stanley, Boeing, and ConocoPhillips. 2x Recipient of the Donna Shirley Engineering Award.
 - Public speaker on AI/ML ethics, with a proven track record of delivering engaging presentations at seminars and conferences. Dedicated to fostering dialogue, raising awareness of societal concerns, and guiding audiences through the ethical implications shaping the future of AI/ML.
 - Alum of OU First-Year Research Experience (FYRE) and Honors Engineering Research Experience (HERE). Member of Data Institute for Societal Challenges (DISC) and Robotics, Evolution, Adaptation and Learning Laboratory (REAL Lab).
 - Member of Society of Hispanic Professional Engineers (SHPE), Society of Women Engineers (SWE), Data Science and Analytics (DSA) Club, Hacklahoma, SACM, UI/UX Club, Engineers' Club, and Computer Science Student Board.
 - Relevant Coursework: Artificial Neural Networks & Evolution, Computational Methods of Discrete Optimization, Intro to Intelligent Robotics, Parallel, Distributed, and Network Programming, Software Engineering, Database Management Systems, Capstone Design Project, Intro to Operating Systems, Computer Security, Theory of Computation, Principles of Programming Languages, Data Structures, Discrete Structures, Linear Algebra, Differential Equations, Calculus I-III.
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Experiences

Data Science Research Assistant

April 2024 – Present

Norman, OK, US

Joining in April. Data science research assistant on the Supply Chain Risk Management (SCRM) team.

- Contribute to an Air Force and SOSSEC Inc. industry project, developing a DoD supply chain risk assessment system
- Conduct data analysis using Python to extract insights from news articles and financial documents
- Assess financial, legal, cybersecurity, and foreign influence risks

AI Data Science Training Expert

February 2024 – Present

Remote

Freelance AI Data Science Training Expert at Outlier AI.

- Refine generative AI model responses and maintain coding standards
- Tackle coding challenges in data generation, cleaning, visualization, and machine learning modeling using Python
- Collaborate on projects aimed at training large language models (LLMs) and improving code generation

Software Engineer Intern

June 2023 – August 2023

Palo Alto, CA, US

Back-end software engineer intern on Site Reliability Engineering Team within the Chief Technology Office (CTO).

- Mastered foundational AWS (S3, EC2, RDC, Lambda) and earned AWS CCP certification
- Engineered a Snowflake resource monitoring dashboard in Grafana using Prometheus metrics
- Implemented end-to-end time-stamp pipeline, enhancing data transfer from AWS S3 to Grafana

IT Support Specialist

March 2023 – August 2023

Norman, OK, US

IT support specialist at OU Library IT Team (Library Technology Platforms).

- Onboarded enterprise computers using KACE and JAMF scripting for seamless integration
- Resolved over 50 Jira support tickets, troubleshooting hardware issues and improving system efficiency
- Provided remote assistance using Bomgar for efficient software issue resolution

Algebra Tutor

September 2022 – April
2023

Remote

Math tutor in the Oklahoma Math Tutoring Corps, an initiative funded by the Oklahoma State Department of Education.

- Conducted triweekly virtual sessions for special education students in grades 7-9
- Focused on real-world problem-solving techniques sensitive to individual learning styles
- Reinforced key concepts of the Oklahoma algebra curriculum

Student Library Assistant

October 2021 – March 2023

Norman, OK, US

Library assistant at the University of Oklahoma Bizzell Memorial Library's History of Science Special Collections.

- Guided researchers in accessing pre-1800s historical materials at the History of Science Special Collections
- Processed Interlibrary Loan (ILL) Requests and digitally delivered photo-scanned sensitive materials
- Assisted in preservation efforts and general upkeep of the special collections

Software Engineer Fellow

June 2022 – July 2022

Plano, TX, US

SWE Fellow in the inaugural class of the Advancing Hispanics & Latinos (AHL) Fellowship Program.

- Implemented an ANN-powered risk assessment model using consumer behavior data for Southern Bancorp
- Engineered "Finalfa", an online financial literacy game using HTML/CSS/JS, React, Figma, and Node.js
- Contributed to innovative business solutions and swift product development within a multidisciplinary cohort

Open Source Projects

brew-masters-c...

An application that will help the dungeon master to provid...

JavaScript  0  2

22.3 MB

cs4013_oliver

Oliver: A Speech-Oriented Tour Guide Robot

Python  0  0

165 KB

ftl-memory-game

Prework submission to the Futureforce Tech Launchpad...

HTML  0  0

28 KB

gwc_cyogame_...

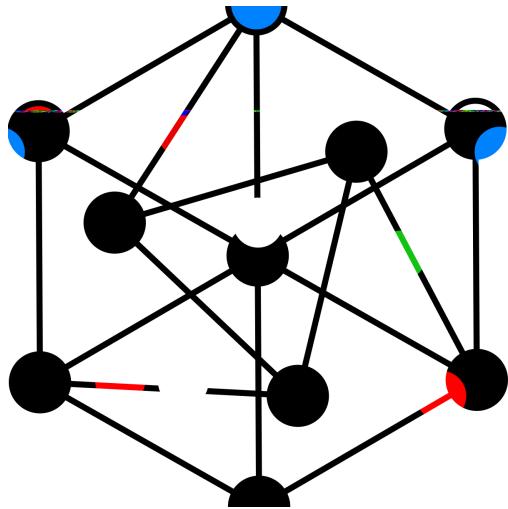
Python  0  0

6 KB

MORE PROJECTS

Projects

EMOJI KEY:  = BACK-END |  = FRONT-END |  = AI/ML & DATA ENGINEERING |  CURRENTLY IN DEVELOPMENT



RL Graph Coloring Problem Solver

Jan-May 2024, Artificial Neural Networks & Evolution Course.

ANNE Course



DISC Agri:AI Coding Challenge

Mar-Apr 2024, DISC. Currently building a predictive regression model for charting CO₂ fluxes and evapotranspiration in grain-only and graze-out wheat using weather and satellite remote sensing data. This coding challenge was funded by NSF and the United States Department of Agriculture.

[DISC Agri: AI Website](#)



	Bonita	Daryl	Laura	Mario	Shelia	blue	green	orange	pink	violet	Cancer	Gemini	Pisces	Sagittarius	Taurus
\$35	X										X				X
\$40	X		X									X	X	X	X
\$45		X		X							X				X
\$50											X				
\$55	X										X				
Cancer	X			X											
Gemini					X										
Pisces					X										
Taurus	X														
blue															
green															
bradie															
pink															
violet															

Annotations below the grid show various constraints being applied, such as 'Taurus' and 'blue' being crossed out, and specific cell values like '1' and '2' being highlighted.

🧠 🚧 RL Matrix Logic Puzzle Solver

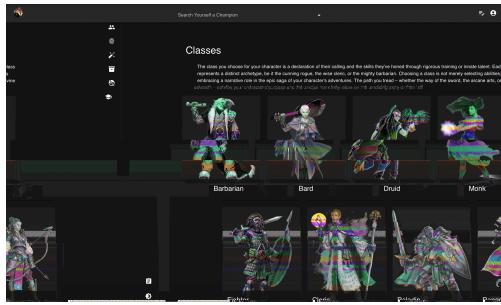
Dec 2023-Present, personal passion project. Exploring interpretable Deep-Q Network (DQN) RL models applied to constraint satisfaction problems (CSPs), specifically grid logic puzzles. Analyzing DQN RL efficacy through key metrics like learning rate, convergence behavior, and solution quality. Open source GitHub repo to be published soon!



🎨 YesterYak: Yik Yak but for Time Travellers!

Feb 2024, Hacklahoma 2024 (Best Theme Winner). Imagine stepping into a digital time machine, not to change history, but to listen in on the whispers and roars of the past. Welcome to YesterYak, a social media from the past, now!

Devpost



🔧 BrewMaster's Cauldron: D&D Character Forge

Aug-Dec 2023, Capstone Design Course. Step into BrewMaster's Cauldron, where homebrew adventures come to life! Craft custom heroes, wield spells, and document quests with this React-based MERN (MongoDB, Express, React, Node.js) web app, tailored for adventurers by adventurers!

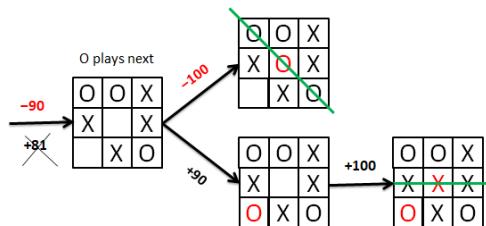
[GitHub Repo](#)



🔧 Oliver: A Speech-Oriented Tour Guide Robot

Aug-Dec 2023, Intro to Intelligent Robotics Course. Explore OU's engineering campus with Oliver, our Autonomous Turtlebot Tour Guide! Implemented on a Kobuki Turtlebot using Gazebo and ROS, Oliver employs NLP for real-time social interaction, offering precise navigation and intelligent insights.

[GitHub Repo](#) [Final Poster](#)

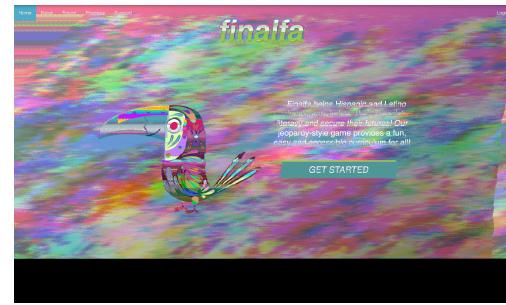


🧠 Tic Tac Alone: A RL-based Proof of Concept for Gamifying Compiler and Code Generator Transformations

Jan-May 2023, HERE Program.

My paper explores the potential benefits of applying RL to compiler optimizations through a proof of concept based on the game Tic Tac Toe and its simpler variation Tic Tac Alone, demonstrating how RL can optimize decision-making processes in compiler optimizations (Tic Tac Toe Graphic is not mine).

[Final Report](#) [Photo credit](#)



🎨 Finalfa: A Jeopardy-style Game to Financially Empower Latino Communities

Jul 2022, JPMC AHL SWE Fellowship. Finalfa helps Hispanic and Latino immigrants bolster their financial literacy and secure their futures! This jeopardy-style game provides a fun, easy, and accessible curriculum for all!

[Glitch Code](#) [Live Demo](#)

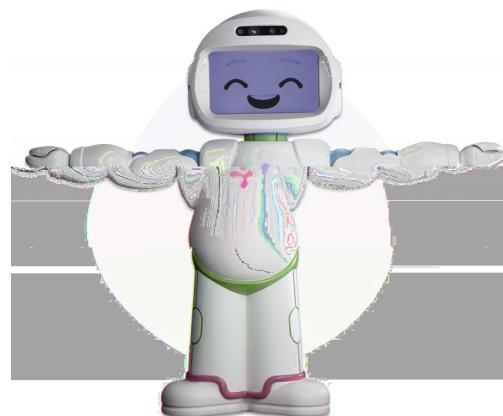


🧠 Modeling Socio-Cognitive Decision Making: An Evolutionary Approach to the Deep RL Agent-Based Neural Network

Jan-May 2021, REAL Lab & FYRE Program. Proposal to optimize deep RL in socio-cognitive sensorimotor responses with partially supervised RL networks, advocating for a unique hybrid approach to create socially cognizant robots for therapeutic applications.

[REAL Lab Website](#) [FYRE Program](#)

[Final Research Poster](#)



🧠 My Independent Paper: The Mind Behind the Robot

Aug 2018-Apr 2019, AP Capstone Program (High School), earned highest possible score of 5 and AP Capstone Diploma. Subtitle: Viewing Prospective Artificial Moral Agent Frameworks through Phenomena of Human-Robot Interaction Attribution of Mental State. Now available for free on ResearchGate. (Note, this adorable social robot graphic is not mine nor is it directly related to my paper!)

[Full paper on ResearchGate](#)

Achievements And Certifications 🏆

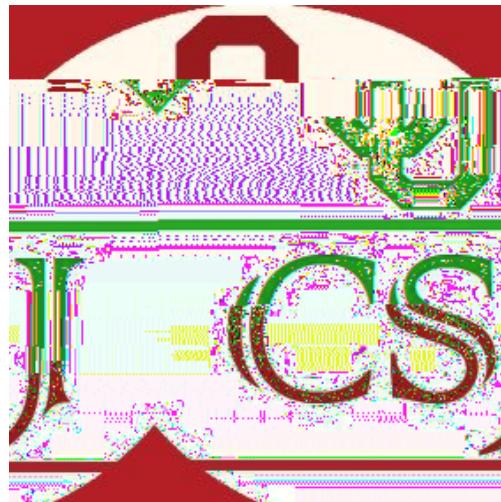
EMOJI KEY: 🏆 = AWARD | ⚙️ = CERTIFICATION/TECHNICAL TRAINING | ✈️ = FULL-RIDE CONFERENCE TRAVEL SCHOLARSHIP



🏆 Colorstack Family Fund Scholarship

April 2024. Colorstack is a tech nonprofit designed to support and empower Black and Latinx Computer Science students nationwide.

Colorstack



🏆 AI Ethics Panelist at OU Teach OUt on Race Conference

March 2024. OU Center for Social Justice's Teach OUt on Race Conference, "Navigating the Intersection of AI, Technology, and Race: Addressing Bias and Promoting Equity."

Teach OUt on Race



🏆 Hacklahoma 2024 Winner for Best Theme

February 2024. My team's project Yesteryak, a generative AI-powered social media simulator for time travelers, won for the best theme among 40+ original student projects.

[Hacklahoma Website](#)

[Project Gallery](#)

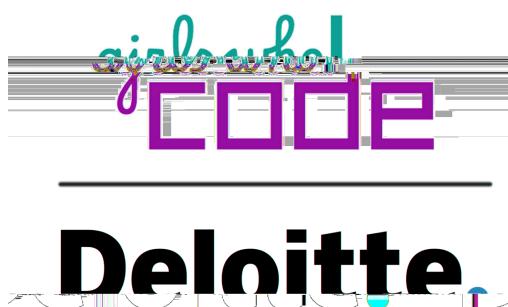
[Yesteryak Devpost](#)



⚙️ AWS Certified Cloud Practitioner

Certification date: Aug. 16, 2023. Expiration date: Aug. 16, 2026. Validation Number: VQLGN48K7EVQQESR

[AWS CCP Certification](#) [Verify Here!](#)



Girls Who Code x Deloitte Technical Interview Prep Bootcamp

November 2023. I simulated the role of a product manager for a mental health-focused startup, crafting a product roadmap and Gantt chart for the development and rollout of a mood logging mental wellness app.

TIP Bootcamp Program

Deliverable: Daily Mood Logging Roadmap



WE23 Conference Attendee (Los Angeles, CA)

October 2023. I had the chance to attend the world's largest conference for women in engineering and technology, engaging in insightful workshops and networking with women in tech from all walks of life across the nation!

WE23 Conference

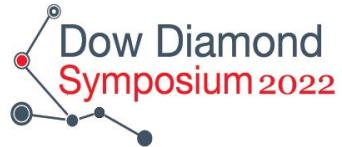
My WE23 LinkedIn Blog Post



TIAA Early Immersion Program for Hispanic and Latino Students (Charlotte, NC)

September 2022. Our cohort of early career Hispanic/Latino students heard from Hispanic/Latino industry leaders at TIAA on how to thrive in the financial industry and embrace our Latino roots in our professional development.

[Acceptance Letter \(Email\)](#)



Dow Diamond Symposium Attendee, Information Systems Cohort (Midland, MI)

August 2022. I learned about Dow's core company values as a manufacturing company and how exciting AI/ML innovations influence and power its supply chain operations.

[Dow Diamond Symposium](#)

[My Dow LinkedIn Blog Post](#)



🏆 Hispanic Scholarship Fund Scholar

Recognized as a 2022 Hispanic Scholarship Fund (HSF) scholar, commended for exceptional achievements, academic excellence, and commitment to fostering diversity and inclusivity within the Hispanic and Latino community.

[Acceptance Letter \(Email\)](#)

[HSF Scholar Program](#)



Salesforce B.A.S.E. Camp Fellow (Scotts Valley, CA)

March 2022. At Salesforce's Trailblazer Ranch, I had the opportunity to connect with other BIPOC computer science students across the country and engage in skill-building workshops, impactful volunteering activities, and early career explorations with Salesforce.

[Acceptance Letter](#)

[My B.A.S.E. Camp LinkedIn Blog Post](#)



⚙️ AT&T Summer Learning Academy Extern

August 2021. Through this AT&T externship, I gained a comprehensive understanding of Personal Development, Business, Technology, and insights into life at AT&T from leadership and industry experts.

Credly AT&T Credential



🏆 OU Scholarships

Throughout my college career, I have been awarded Dean's Honor Roll, the OU Resident Freshman Award of Excellence Scholarship, OU GCoE Distinguished Freshman Scholarship, OU GCoE Tomorrow's Engineer Scholarship, and OU GCoE Diversity & Inclusion Resident Tuition Waiver.



AP Capstone Diploma™

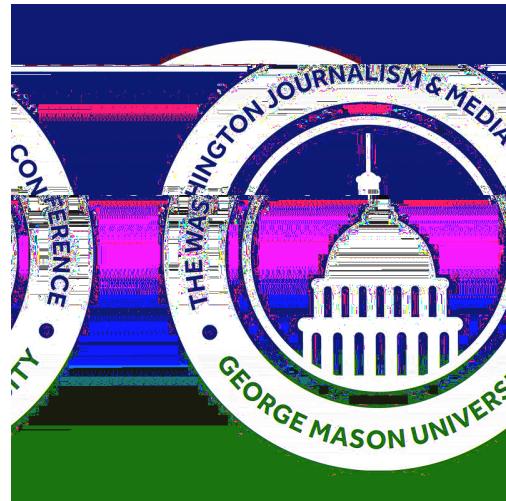
🏆 AP Capstone Diploma

July 2019. Awarded the AP Capstone Diploma for the outstanding achievements showcased in my independent preprint publication, "The Mind

"Behind the Robot," now accessible to the public on ResearchGate.

AP Capstone Diploma

"The Mind Behind the Robot" paper



✈ Washington Journalism and Media Conference Attendee National Youth Correspondent (Fairfax, VA)

July 2019. At WJMC, I gained hands-on knowledge in journalism from industry leaders, award-winning journalists, international media outlets, and Washington insiders.

WJMC Program

Let's Start a Conversation!



JUNTOS SOMOS MÁS FUERTES!

•••

📍 Oklahoma City, OK, US

Open for opportunities: Yes



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