

# Nathan Perez

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## TECHNICAL SKILLS

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**Languages:** C, C++, C#, Rust, Java, JavaScript, Typescript, Python, SQL (Microsoft), HTML, CSS, SCSS, Dart  
**Frameworks:** React, Vue.js, .NET, Flutter, Bootstrap 5, ExpressJS, Entity Framework Core  
**Developer Tools:** Unity, Git, MongoDB, Jira, Confluence, SSMS, IIS, Unix, Figma

## WORK EXPERIENCE

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**Undergraduate Research Assistant (REU)** May 2025 - Jul 2025  
*University of Louisville* Louisville, KY

- Integrated modern explainability techniques (LIME & SHAP) into machine learning classifiers to support disaster response decision making and to test hypothesis regarding data leakage and alternative data splitting approaches
- Conducted literature review of explainable & interpretable machine learning techniques
- Participated in weekly meetings with PI & lab members regarding progress
- Wrote report with findings and presented research poster to staff & students

**Web Development Intern** Jan 2024 - May 2024  
*Ayoka Systems* Arlington, TX

- Developed and debugged enterprise application features using Vue.js, Typescript, and Entity Framework Core
- Key implementations included inventory management and tracking, bar-code scanning, and PDF generation
- Employed Git feature branch workflow to work effectively within a team
- Communicated in daily stand-ups regarding progress

**Software Development Intern** May 2023 - Aug 2023  
*Tyler Technologies* Plano, TX

- Designed and implemented full-stack overhaul to web app that calculated and presented resource projections
- Developed asynchronous REST API with promised-based requests using Node.js, Axios, & SQL
- Leveraged Agile Development principles with Jira, while maintaining a multi-branch Git workflow with team
- Revamped front-end dialogues with new features and a modern user interface with Material UI
- Wrote and published Confluence documentation over new database structure & ReactJS components
- Responsible for aiding in live deployment to production

**Mathematics Tutor** Feb 2022 - Oct 2022  
*Midland College* Midland, TX

**Receptionist** Sep 2019 - Jan 2023  
*Bush Tennis Center* Midland, TX

## PROJECTS

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**Game Boy Emulator** | Rust, SDL2 Aug 2024

- Sole programmer on Game Boy emulator, includes emulation of CPU, PPU, RAM, IO, and Bus
- Verified CPU is specification accurate through extensive testing of opcodes, interrupts and timing

**Moist Meter** | React JS & TS, Python, Google Cloud, Raspberry PI, HiveMQ, MongoDB Oct 2023

- Front-end developer on IoT web-app, 1st place winner in hackUTA's Main Track and State Farm's track

**HateDeception: Adversarial NLP** | Python, PyTorch, NumPy, Pandas, Matplotlib, NLTK Jan 2023

- Responsible for the cleaning, lexical analysis, and visualization of 32,000 records before & after EDA & GloVe
- Worked in red team to decrease large language model classification by 20% while maintaining meaning of tweets
- Presented with 4 peers in research symposium to audience of professors, students, and researchers

**Personal Website** | Bootstrap 5, Html, CSS Jun 2023

- Personal website hosted at <https://nathanperez.dev>, showcases 10+ projects not related to academic work

## EDUCATION

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**University of Texas at Dallas** Jan 2023 - May 2026  
*Bachelor of Science in Computer Science* | 3.7 GPA Richardson, TX

**Midland College** Jan 2021 - Dec 2022  
*Associate of Science in General Studies* | 4.0 GPA Midland, TX