

Arturo Durán Castillo

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EDUCATION

Tecnológico de Monterrey, ITESM

B.S in Computer Science and Technology

- GPA: 3.9/4.0 (equiv. 98.2/100)
- Scholarships: Academic Talent Scholarship

Monterrey, Nuevo León

Expected Graduation: June 2025

EXPERIENCE

Software Developer Intern

Softtek

June 2024 - Present

Monterrey, Nuevo León

Codemod Automation NPX Tool | *Node.js, Yargs, Jscodeshift, Express.js, Firebase* Nov 2024 – Present

- Led the design and development of an NPX tool to streamline the distribution and execution of codemods using *jscodeshift*, accelerating security fixes, code migrations, and automated refactorings for large-scale projects.
- Proposed and implemented a local server-based CLI authentication flow using *Express.js* and *Firebase*, enabling a secure and user-friendly experience while also supporting user metrics tracking and analysis.
- Deployed the tool in a major financial institution's monorepo, refactoring over **5,000 lines of code** across **340 files**, and reducing migration time from **14+ hours** to under **2 minutes** through full automation.

Enterprise Platform Development | *React, Microsoft SQL Server, Firebase* Sep 2024 – Present

- Developed core modules for a large-scale product platform serving a major pharmacy chain, collaborating with cross-functional teams to ensure a scalable architecture and seamless user experience.
- Implemented a stored procedure-based bulk upload system in *SQL Server*, reducing ingestion time from **15+ minutes** to under **10 seconds** per **1,000 products**, significantly boosting operational efficiency.

Virtual Learning Platform Migration & Update | *React, Vite* Jun 2024 – Aug 2024

- Migrated and modernized a virtual learning platform used by multiple clients—including a major global enterprise—serving **700+ registered users**.
- Transitioned the platform from *Create React App* to *Vite*, upgrading *React* from **v17.0.2** to **v18.2.0** and *Material UI* from **v4** to **v5**, resolving library incompatibilities and improving build performance and developer experience.

Web Developer Intern

Swirvle

June 2023 – Aug. 2023

Monterrey, Nuevo León

- Developed employee performance indicators using *React* and *Firebase* for **~35 affiliated companies**, enabling real-time insights into individual employee performance.

PROJECTS

Multi-Agent System for Harvesting Process Optimization | *Unity, Node.js, WebSocket* Aug 2023 – Sep 2023

- Collaborated with John Deere to build a 3D simulation in *Unity* for optimizing agricultural harvesting processes.
- Built a *React*-based web interface for real-time metric monitoring and parameter input via *WebSocket* communication.
- Implemented intelligent routing algorithms, including a modified *Traveling Salesman Problem* for harvesters and *Q-learning* for tractor coordination, improving collection efficiency.

LEADERSHIP / EXTRACURRICULAR

Intercultural, Sustainability and Global Citizenship Program

Thompson Rivers University

Dec 2023

Kamloops, British Columbia

- Awarded a merit-based scholarship by the state of Guanajuato, Mexico, to participate in an international program focused on sustainability and global citizenship.
- Collaborated in multicultural teams, strengthening communication, adaptability, and cross-cultural awareness.
- Explored global challenges and sustainability practices, gaining insights essential for building socially responsible and globally aware solutions.

TECHNICAL SKILLS

Languages: JavaScript, TypeScript, Python, C++, C#, HTML/CSS.

Additional Technologies: Docker, Angular, Next.js, Node.js, MySQL, PostgreSQL, MongoDB, Unity.

Developer Tools: Git, GitHub, Google Cloud Platform, Firebase, Supabase.