

# Luis Avalos

762-436-6211 | [avaloseluis2@gmail.com](mailto:avaloseluis2@gmail.com) | [linkedin.com/in/luis-enrique-avalos](https://linkedin.com/in/luis-enrique-avalos) | [github.com/Luis-avalos1](https://github.com/Luis-avalos1)

## EDUCATION

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**Kennesaw State University**  
*B.S. in Computer Science*

Kennesaw, GA  
*Dec. 2024*

## EXPERIENCE

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**Software Engineer**  
*Avalos Drywall LLC*

Mar. 2019 – Present  
*Remote-Part Time*

- Built and operate **PaperTrail**, the invoicing and revenue-tracking platform that handles all billing for the company — invoice creation, payment tracking, outstanding balances, and monthly revenue analytics — replacing a manual paper-based workflow
- Architected a real-time data layer in React 19 + TypeScript with Firebase Firestore **onSnapshot** subscriptions and Firebase Auth, syncing invoices and client records across devices with isolated dev/production environments
- Implemented branded PDF invoice generation (jsPDF, custom embedded fonts) with an automated Python pipeline backing up every invoice to Dropbox for off-site archival
- Cut initial bundle size  $\sim 57\%$  via route-level code splitting and lazy-loading the PDF and charting modules; deployed to Netlify with auto-deploys from a protected production branch

**Software Engineer Intern**  
*Outlier.AI*

May 2024 – Aug. 2024  
*Remote*

- Developed and optimized machine learning algorithms for AI training pipelines, improving model performance by 15% through code refactoring and algorithm enhancement
- Built production-level API integrations using Google APIs and YouTube APIs with robust error handling, rate limiting, and authentication
- Utilized Python, TensorFlow, REST APIs, JSON processing, and cloud deployment practices

## PROJECTS

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**Atlas** | *TypeScript, Next.js, tRPC, Postgres (Drizzle), Anthropic Claude API* 2026

- One of two developers on a Claude-powered bookkeeping agent for small-business owners; built the receipt-capture pipeline: users text or upload a photo of a receipt over SMS (Twilio) or web, and the agent extracts the data, checks the ledger for duplicates, and posts a journal entry only after explicit user confirmation
- Designed a schema-validated rendering system that lets the AI agent compose live dashboards (data tables, kanban boards, metric cards) from a typed component registry bound to tRPC queries, with graceful error fallbacks instead of React crashes
- Closed a privilege-escalation vulnerability by adding role-based authorization middleware across every API router; hardened file uploads with Zod-validated MIME allow-lists and made AI tool calls idempotent to prevent duplicate financial writes
- Cut per-conversation LLM cost  $\sim 3\times$  with prompt caching of system prompts and tool definitions; set up the project's first test suite and CI workflow (Vitest, GitHub Actions)

**lore** — **Claude Code Plugin** | *Shell, Git, Agent Skills*

2026

- Published a context-staleness watchdog for AI coding agents: detects when a repo has drifted past its `CLAUDE.md` (commit count, manifest changes, rewritten history) and refreshes a managed block with only what git shows changed
- Designed the drift check as a pure-shell `SessionStart` hook with zero model-token cost, staying silent unless action is needed; distributed via the Claude Code plugin marketplace with a two-command install

**Allly Companion** | *JavaScript, Chrome Extension (MV3), WordPress, Web Speech API*

2026

- Built an accessibility toolbar for nonprofit Lasagna Love as a WordPress plugin, then ported it to a Chrome extension that works on any website, with settings synced across devices via `chrome.storage.sync`
- Rendered the toolbar inside a Shadow DOM to isolate it from host-page CSS, and implemented physiologically accurate color-blindness simulations (protanopia, deuteranopia, tritanopia) using SVG `feColorMatrix`
- Added voice commands and page read-aloud via the Web Speech API, plus a dyslexia-friendly font mode, reading mode, and full keyboard navigation with visible focus rings

## TECHNICAL SKILLS

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**Languages:** C++, Python, Java, TypeScript, JavaScript, SQL, HTML/CSS, Go, MATLAB, PHP

**Frameworks & Tools:** React, Node.js, Qt, CMake, Django, Express.js, TensorFlow, Angular, Bootstrap, TailwindCSS, GraphQL, JUnit, WordPress

**Graphics & Libraries:** OpenGL, GDAL, Assimp, Maya API, Eigen, pybind11, OpenCV, PyTorch, pandas, NumPy, Matplotlib, scikit-learn, torchvision

**Databases & Cloud:** PostgreSQL, MongoDB, Redis, SQLite, AWS, Kubernetes