

SHASHANK DHANAKSHIRUR

Lead Frontend Engineer | Shipping Production AI Agents

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- ▶ Shipped a 70+ tool GPT-5 agent with RAG that builds analytics dashboards and reports from plain English.
- ▶ Grew an in-product natural-language agent to about 100 tools for a 3D crash-simulation workbench.
- ▶ Built an internal multi-agent bug pipeline that reproduces, drafts fixes, and screenshot-verifies across 600+ tickets.
- ▶ Hand-built a 16k+ line HTML Canvas node editor powering a visual workflow-automation builder.

SUMMARY

Lead frontend engineer who now ships production AI agents, from an ambiguous problem to verified shipped UI: natural-language agents over 3D simulation and analytics products, RAG pipelines, and the internal multi-agent tooling that builds and tests them.

EXPERIENCE

Lead Front End Software Engineer | Xfinity Inc (dba D3VIEW) 2021 - present

- Designed and shipped a conversational data-science agent (Simlytiks) with 70+ natural-language tools spanning filters, visualizations, dashboard pages, and export to PowerPoint, Word, Excel, CSV, and interactive HTML, on OpenAI GPT-5 tool-calling with parallel calls and RAG over files and a vector store.
- Scaled a 3D crash-simulation workbench's natural-language agent to about 100 tools across 11 capability packs using a declarative tool-manifest framework, so a new capability is a manifest entry plus a handler, with agent-level undo.
- Wrote the agent system templates and prompt contracts, plus a results renderer that returns answers as inline tables, key-value cards, curve plots, and live 3D snapshots.
- Added a first-class AI-agent worker type to a visual process-automation builder (Workflow), with nested child agents and prompt inputs.
- Built internal AI dev-automation: a multi-agent bug pipeline that reproduces in a live browser, root-causes, drafts and rebuilds fixes, and screenshot-verifies across 600+ tickets, parallelized with git worktrees for human review.
- Set frontend architecture and roadmap across a suite of automotive-CAE web apps, took over full ownership of the BabylonJS 3D crash-simulation viewer, and mentor engineers.

Front End Software Developer | Xfinity Inc (dba D3VIEW) 2016 - 2021

- Extended a BabylonJS/WebGL viewer for 150+ MB crash-simulation models: built pedestrian head-impact overlays (FMVSS / Euro-NCAP) and RBF mesh morphing baked off the main thread on web workers, plus multi-material picking and anti-aliased rendering improvements.
- Hand-built a 16k+ line HTML Canvas 2D node editor for the automation builder (custom zoom/pan, automatic graph layout, exact snapshot/restore) and modularized monolithic bundles into 130+ modules.
- Built a Backbone + D3 v5 visualization platform with 40+ chart types, cross-dataset dashboard joins, and ML model-comparison dashboards (R2/RMSE/MAE, response surfaces, partial dependence, feature importance).
- Built PowerPoint, PDF, and Word report generation and a keyword deck editor over hundreds of thousands of records with full undo/redo.

Software Engineer | Faichi Solutions 2012 - 2014

- Delivered and maintained the front-end for 1800+ websites including top university journals, with cross-browser XHTML, CSS, and jQuery; ran training and wrote team documentation.

PROJECTS & SKILLS

SportsAtlas (self-driven, deployed): SvelteKit + TypeScript app mapping live sports events onto an interactive 3D globe (globe.gl / Three.js), with a Match Center and a game mode; shipped to Vercel with SEO pages, structured data, and Web Analytics.

AI / ML: LLM tool-calling / function-calling agents, retrieval-augmented generation (RAG), agent tool/manifest frameworks, prompt engineering, OpenAI GPT-5 family, multi-agent orchestration, Claude Code, Cursor, GitHub Copilot

Frontend: JavaScript, TypeScript, HTML, CSS, React (learning), Backbone, jQuery, Underscore

Data Viz / 3D: D3.js (v5), BabylonJS / WebGL, Canvas 2D

Tools & Practices: SvelteKit, REST / JSON, Grunt, Git / BitBucket, CI, lazy loading, virtual lists, async / AJAX, caching / client storage, accessibility

EDUCATION

M.S., Computer Science, Binghamton University (SUNY) 2015-2016

B.E., Electronics & Communications Engineering, Pune University 2008-2012