JACK WINTER

SENIOR SOFTWARE ENGINEER, FRONTEND

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SUMMARY

Senior Software Engineer with 8+ years of experience building customer-facing products with React and TypeScript. Led greenfield builds and major frontend transformations across sports betting, gaming and fintech, owning architecture and delivery from initial problem through to production. Specialises in real-time interfaces and performance optimisation. Creator of open-source tools for AI coding agents, using MCP, embeddings and semantic code retrieval. At my best owning difficult problems, moving quickly and turning new technology into useful, production-ready products.

WORK EXPERIENCE

Senior Front-End Developer, KTO Group, Remote **Jun 2025 - Present**

Sportsbook and online casino operator serving the Brazilian market.

- Led the frontend transformation of KTO's sportsbook from a third-party hosted product to a fully custom React and TypeScript platform, owning architecture and core customer journeys within a business serving 1.4M active users and 5B bets placed.
- Overhauled sportsbook performance across rendering, bundles, service loading and real-time data processing, delivering 40% faster FCP, 25% faster LCP, 20% lower blocking time, 9.3% less transferred data and 11× faster return navigation in performance testing.
- Designed a modular sportsbook architecture across a pnpm/Turborepo monorepo spanning 27 packages and 22 modules, separating reusable UI, domain logic, data providers and third-party integrations.
- Built a real-time sports data pipeline using Web Workers, Socket.IO and Zustand, moving high-frequency events and odds processing off the main thread to keep live betting interfaces responsive.

Senior Front-End Developer, GeoGaming Group, London **Jun 2023 - Jun 2025**

Sportsbook and casino games provider developing white label solution.

- Led frontend performance initiatives that reduced application load times by 30%, improving responsiveness and customer experience.
- Modernised the frontend architecture through improved bundling, code splitting and lazy loading, reducing unnecessary client-side overhead.
- Increased automated test coverage from 25% to 75%, introducing stronger unit, integration and end-to-end testing practices with Jest and Cypress.
- Developed real-time betting interfaces using RxJS, WebSockets and REST APIs to support continuously updating sportsbook data.
- Mentored junior engineers, led code reviews and helped establish frontend engineering standards across the team.

Senior Software Engineer, SmartStream Technologies, Bristol **Jul 2017 - Aug 2022**

Fintech developing cash and liquidity management solution for major banks.

- Led the development of a complete greenfield Angular front-end project, replacing a legacy system and directly enabling the successful acquisition of two high-profile deals.
- Designed and developed in-house tools using React and Node.js to streamline internal workflows, improving team efficiency.
- Conducted interviews for candidates across junior to senior developer roles.
- Developed a machine-learning prototype to improve transaction forecasting, demonstrating improved forecast accuracy on historical banking data.
- Collaborated closely with DevOps teams to resolve critical system issues, ensuring 24/7 reliability by providing on-call support.

PROJECTS / OPEN SOURCE

brain-cache - Creator https://github.com/j4ckwinter/brain-cache

TypeScript, Node.js, MCP, LanceDB, Ollama, tree-sitter.

- Designed, built and published an MCP-first context engine that helps AI coding agents retrieve task-relevant code instead of loading large amounts of unrelated codebase context.
- Reduced retrieved context from approximately 18,600 to 1,200 tokens in a representative example by selecting and assembling relevant code.
- Implemented local embeddings and vector search with Ollama and LanceDB, alongside AST-aware, multi-language code chunking with tree-sitter.
- Integrated the engine with AI coding agents through MCP and packaged it for public release on npm.

pancake-stack - Creator https://github.com/j4ckwinter/pancake-stack
Codex, Claude Code, Agent Skills, Python, GitHub Actions.

- Built and published 19 reusable skills for AI coding agents, covering investigation, implementation, review and verification.
- Designed shared workflows for scoped delegation, independent review and evidence-based verification across Codex and Claude Code.
- Created an evaluation framework with 86 automated checks covering package validation, test fixtures, evaluation tooling and historical helper regressions, integrated with CI.
- Evaluated workflows against unguided agents and an alternative agent workflow, comparing defect detection, false positives, unnecessary work, execution time and token usage.

EDUCATION

Bachelor of Science in Computer Science **Sep 2013 - Apr 2017**
University of the West of England - 2:1

TECHNICAL SKILLS

- **Languages & Frameworks:** TypeScript, JavaScript, React, Node.js, Angular, Python, Java, HTML, CSS
- **Real-Time & Data:** WebSockets, Socket.IO, RxJS, Zustand, TanStack, REST APIs, SQL, Web Workers
- **AI & Developer Tooling:** LLMs, MCP, embeddings, vector search, Ollama, LanceDB, tree-sitter, Claude Code, Codex
- **Testing:** Jest, Cypress, Vitest, unit testing, integration testing, end-to-end testing
- **Engineering & Platform:** pnpm, Turborepo, Storybook, Docker, AWS, CI/CD, Git,