

Grzegorz Bąk

Senior Software Engineer · Poznań, Poland · contact@gregbak.com · gregbak.com · linkedin.com/in/gregorein · github.com/Gregorein · x.com/Gregorein

Profile

Full-stack software engineer (MSc Computer Science) with 10+ years of front-end expertise (primarily React + TypeScript) and 8+ years full-stack development. Proven experience delivering scalable B2B web applications, data-intensive enterprise platforms, and visualization-heavy tools for international clients. Strong command of GraphQL integrations, complex real-time UIs, and 3D/web-based data visualization (Three.js + Blender pipelines). Blends technical depth with creative skills in UI/UX design, 2D/3D animation, and AI systems. Seeking senior React roles in innovative B2B / data-driven products, especially AI-powered 3D engineering, CAD/CAE visualization, and simulation platforms.

Experience

Senior Software Engineer — Billennium

Remote · January 2025 – Present

- Led a self-initiated 3-phase modernization of a 5-year-old enterprise healthcare platform (Fortune 500 pharmaceutical client, ~5 dev team): Gatsby 2 → Next.js 16 migration, architecture overhaul, and build system rebuild — eliminating ~\$49k in accumulated waste with estimated 500–800% ROI.
- Rebuilt widget build system from CRA to Vite, restructured project as a pnpm monorepo, reduced bundle size by 68%, and cut the CI pipeline from 20+ minutes to 4–5 minutes.
- Eliminated 16+ circular dependency chains, introduced dual-mode ESLint (strict for new code, warnings for legacy) — including custom plugins for project-specific cases, created a feature-based architecture with isolated legacy code, and wrote 8 architecture guides for team onboarding.
- Established a code review process (previously non-existent), introduced Git hooks enforcing conventional commits and type safety, and added developer tooling (bundle analyzer, circular dependency detection, unused code scanning).
- Earlier: optimized a legacy ML automation platform for a Computer Vision startup client, led Next.js + TypeScript UI overhauls on Vercel with headless CMS / GraphQL integrations.

Senior Software Engineer — Pragmile

Remote · July 2024 – December 2024

- Collaborated on development of a logistics / BI web platform; implemented and optimised legacy features that elevated user experience and system reliability.
- Optimized processes by adopting best design practices, reducing development bottlenecks and fostering efficient team collaboration.

Full-stack Engineer & Content Creator — gregore.in

Personal project · January 2024 – Present

- Engineered Aileen, an ethical real-time AI “Content Creator” powered by a RAG architecture with integrated WebSockets / WebRTC / REST / GraphQL APIs; designed custom React-based overlays, Electron dashboards, and low-latency interaction systems (Python backend: LangChain / Pydantic-ai, Stable Diffusion Flux / LoRA training, vector databases).

Senior Software Engineer — Sigma IT Poland

Remote · August 2022 – October 2023

- Cooperated with developer teams in architecting an advanced pharmaceutical research web platform, including 3D data visualization components using Three.js and custom technologies to represent complex datasets with real-time interactions — e.g. protein folding, volumetric / spatial molecular data, Molstar viewer integrations — optimizing performance, scalability, and user experience for scientific / engineering workflows.
- Drove major refactoring of legacy systems, modernized codebases with TypeScript / React best practices, and accelerated delivery timelines through expertise sharing.

Front-end Engineer — Netguru

Poznań · October 2020 – July 2022

- Crafted responsive UIs with React.js and modern front-end tools, collaborating with design teams to produce intuitive, aesthetically driven solutions.

- Conducted code reviews and enforced best practices, contributing to high-quality, maintainable codebases.

Front-end / Full-stack JavaScript Engineer — SII Poland

Poznań · June 2018 – September 2020

- Built performant web apps using JavaScript, React.js, and Node.js, integrating external APIs to enhance functionality and speed.
- Partnered with clients to capture requirements and customize solutions, ensuring alignment with business goals and user needs.

Full-stack JavaScript Developer — Crafton

Poznań · May 2017 – April 2018

- Developed web applications using JavaScript, Node.js, and SQL, contributing to client projects requiring rapid iteration and creative problem-solving.
- Worked with SASS for styling and maintained consistent code quality across frontend and backend components.

Junior Front-end Developer — UX Dream sp. z o.o.

Poznań · July 2015 – April 2016

- Built responsive user interfaces using JavaScript and Redux.js, collaborating closely with UX designers to implement pixel-perfect designs.
- Gained foundational experience in frontend development workflows, version control, and agile methodologies.

Earlier: worked as a junior freelancer.

Education

MSc, Computer Science — Adam Mickiewicz University, Poznań

2019 · Thesis: "World-State in Augmented Reality"

Developed an iOS ARKit-based face-tracking mobile application for 3D animation, created an in-paper QR-based AR anchor with Three.js embedded visualisation to show how AR technology can be applied in real life, explored landmark recognition.

Eng. (Inż.), Computer Science — Adam Mickiewicz University, Poznań

2016 · Thesis: "Motion Blending in Virtual Reality"

Developed a Unity VR escape-room game, explored user motion with Inverse Kinematics and spatial synchronisation of body / object trackers.

Technologies & Skills

- **Core:** React.js (Hooks, Context, Suspense), TypeScript, Next.js, GraphQL
- **Front-end:** Vite / Webpack, Material / AntDesign / Tailwind, MUI / JoyUI, Motion, Electron
- **Visualization & Creative:** Three.js, 3D animation (Blender), UI/UX design (Figma / Adobe XD / Lunacy), 2D/3D pipelines (Photoshop / Krita)
- **Back-end / APIs:** Node.js, FastAPI / Flask, Express.js, WebSockets, REST / GraphQL, Django
- **AI & LLM:** OpenAI API, LangChain / Pydantic-ai, LLM agent architecture, memory / state modeling, tool validation, RAG, vector databases, Stable Diffusion (1.5 / XL / Flux, LoRA training)
- **Tools / DevOps:** Git, Jira, Vercel, Docker (basics), AWS (basics), Python (threading / asyncio)

Open Source & Initiatives

- **Godot / Redot Engine** — created GodotVersion, an automation plugin bridging git log to SemVer for Godot projects (23 stars); contributed wrapper scripts enabling godot-tools compatibility with the Redot engine.
- **GNOME Desktop** — contributed 2 feature extensions and 1 new feature to TilingShell; created Oledwaita, a GNOME theme fork optimized for OLED displays (true black, rebalanced colors).
- **Next.js** — assisted the core team with debugging i18n + middleware issues during the Pages → App Router migration.
- **Blender Foundation (2012–2013)** — contributed to the official Polish localization of Blender.

Awards

- **Jury Award — Slavangard Film Festival (2019/2020)** — 3D Animation / Experimental Film category for *Oblicze Ziemi* (The Face of the Earth).