

# KEERTHIVASAN

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## PROFESSIONAL SUMMARY

I am a backend and integration-focused developer specializing in building APIs, connecting complex systems, and creating automation pipelines. I have extensive experience across Node.js, Python, C++, Unity, Firebase, and Supabase, working on projects that involve multi-system communication, real-time data exchange, and custom workflow implementation. I am a fast learner with strong communication skills, seeking a role where I can contribute to large-scale integrations and continuously advance my backend and cloud development expertise.

## TECHNICAL SKILLS

- **Languages:** Python, JavaScript, TypeScript, C++, C#
- **Backend & Cloud:** Node.js, REST APIs, Firebase, Supabase, SQL
- **Frontend & UI:** React.js, Next.js, TypeScript, HTML, CSS, Material UI, Tailwind CSS
- **AI Automation & Agents:** LLM-powered automation with GPT, Gemini, Ollama, AI agents & tool-calling, prompt engineering, structured output, JSON schemas, automation with n8n, API orchestration for AI pipelines
- **Game Development:** Unreal Engine, OpenGL, Unity
- **Tools & Other:** Git, Docker, Postman, Figma, WordPress, Asana, Jira, Excel, Word, Slack, Illustrator

Check out my Git: [github.com/K-Keerthivasan](https://github.com/K-Keerthivasan)

## WORK EXPERIENCE

### Freelance Web Developer | K2DigitalMedia

(2023 - Present)

- Created and deployed custom, modern, and responsive websites using Next.js, TypeScript, and Tailwind CSS.
- Developed full-stack applications with Node.js backends and integrated Firebase/Supabase for database, authentication, and storage.
- Built scalable WordPress websites with custom themes and client-specific plugins, optimizing for SEO and performance.
- Embedded third-party APIs and applications (Stripe, YouTube, Google Maps).
- Managed end-to-end client projects: requirements gathering, workflow documentation, and delivering production-ready web solutions.
- Translated technical ideas for non-technical customers, clearly defining requirements, scope, and delivery schedules.
- Provided post-launch website maintenance, updates, and performance checks.
- Check out my works at [k2digitalmedia.ca](https://k2digitalmedia.ca)

### Associate Developer | Certify Technologies

(Nov 2021 - Jul 2023)

- Built data integration pipelines connecting frontend dashboards to backend services and APIs.
- Integrated and managed databases: SQL, MongoDB, Firebase.
- Collaborated with product and QA on requirements, workflow mapping, and integration planning.
- Supported production releases through log troubleshooting, integration issue fixes, and validation.

- Maintained codebases using Git for version control and team collaboration.
- Built responsive UI components using React, TypeScript, JavaScript, Tailwind, HTML, CSS.
- Developed Unity scripts/plugins for CHAI 3D haptic force feedback integration.

#### **Research Assistant | Materia Bioworks, Fanshawe College**

(Aug 2024 – Nov 2024)

- Developed a web scraper for automatic data gathering.
- Applied machine learning techniques to investigate biopolymers and learn the interaction and combination of material properties.
- Prepared a research paper and informative report on material science applications of machine learning, covering model performance and data analysis.
- Managed Git workflow and experimented with various data training types.
- Communicated complex technical findings clearly to non-technical stakeholders.

#### **Research Assistant | Haply Robotics, Fanshawe College**

(Aug 2024 – Dec 2024)

- Developed a Unity engine haptic feedback system by integrating the CHAI 3D library.
- Authored code to bridge communication between Unity (C#) and CHAI 3D (C++) using interop techniques for real-time, bidirectional haptics data transmission.
- Developed Unity scripts and native plugins to enable CHAI 3D to provide force feedback into the Unity runtime.
- Developed multi-physics engine environments to enhance simulation effectiveness.
- Contributed to a complex GitHub repository, managing C++ applications and parsers for cross-language correspondence.

#### **PERSONAL PROJECTS**

- **Blog Website (TypeScript, Firebase/Firestore)** – A full blog platform where users can log in and write/edit posts live using a rich text editor (images + formatting), built with clean collections and SEO in mind ([blog.kkvasan.ca](http://blog.kkvasan.ca)).
- **VFX & Editing Portfolio (React, Firebase, Material UI)** – A portfolio site with a secure admin panel to add/update film & VFX projects, with categories, video embeds, and a mobile-friendly layout ([film.kkvasan.ca](http://film.kkvasan.ca)).
- **Custom Game Engine (C++, OpenGL)** – A small game engine I built from scratch with shaders, textures, a rendering pipeline, animation, physics basics, and collision detection.

#### **More Projects**

Portfolio highlights include physics simulations, custom shaders, and responsive freelance websites featuring admin dashboards. I also develop full-stack applications leveraging Firebase, Supabase, and cutting-edge frontend technologies.

View my work: [k2digitalmedia.ca](http://k2digitalmedia.ca)

#### **EDUCATION**

- Visual Effects and Editing for Contemporary Media (2024-2025)
  - Fanshawe College, London, ON, Canada
- Game Development – Advance Programming (2023-2024)
  - Fanshawe College, Downtown London, ON, Canada
- Master of Computer Applications (MCA) (2020-2022)
  - College of Engineering Guindy, Anna University, Chennai, India
- Bachelor of Commerce (B. Com) (2017-2020)
  - Ramakrishna Mission Vivekananda College, Chennai, India