ALEX KENT

// SOFTWARE ENGINEER | FULL-STACK DEVELOPER | AI & AUTOMATION

Eastbourne, East Sussex | alexkent.com/contact/

// PROFILE

Software engineer with 20+ years of full-stack experience building and running production web platforms, APIs and business automation in PHP, Python, JavaScript and SQL. MSc in Artificial Intelligence and Adaptive Systems (Merit, 72%). Integrates AI into live workflows with caching, validation and human review. Owns systems from requirements through deployment to long-term support, works easily with non-technical colleagues, and has managed staff, finances and compliance as a company director. Open to hybrid roles within commuting distance of Eastbourne, Brighton, Lewes and London.

// KEY SKILLS

Languages: PHP, Python, JavaScript, SQL, HTML, CSS, Bash; TypeScript, React and Vue.js on personal projects.

Web & APIs: REST APIs, OAuth 2.0, Flask, Starlette, Smarty, jQuery, WordPress (custom plugins), Stripe, Meta Graph API, Amazon SES, Google Cloud APIs.

Data: MySQL/MariaDB (replication, backups, query optimisation), PostgreSQL, SQLite, Microsoft SQL Server, relational modelling, reporting and ETL.

AI & ML: OpenAI API integration, MCP tool design, LLM coding assistants, NLP, PyTorch, scikit-learn, Hugging Face Transformers.

Delivery & operations: Git/GitHub, PHPUnit and unit testing, code review, Linux administration, DNS, SMTP, TLS, SPF/DKIM/DMARC, audit logging, access control, GDPR; GitHub Actions for automation; Docker on personal projects.

People & business: Staff management, recruitment and appraisals, stakeholder communication, financial administration, conference presenting.

// PROFESSIONAL EXPERIENCE

Director & Lead Software Architect | Guild of Energists Ltd

Eastbourne | September 2002 to present

Own the architecture, development, deployment and long-term operation of an international membership, training and publishing platform, alongside the leadership of the company. Work directly with staff, members and international contributors to turn requirements into reliable software.

- **Multi-site platform:** Designed SpaceNode, a modular PHP/JavaScript CMS and business platform, Laravel-like in structure with Smarty templates, covering membership, events, courses, payments, communications and self-service tools. Supports 1,000+ international users and reduced office administration by approximately 70%.
- **AI workflow automation:** Integrated OpenAI APIs into production translation, classification and document workflows, with caching, versioning and review checkpoints. Reduced content and document production tasks from days of staff effort to hours.
- **Agentic tooling:** Built and deployed a Python MCP email gateway with typed tool inputs, OAuth/PKCE, per-user mailbox grants, audit records and a supporting test suite. Organised two inboxes of 800+ emails each and automated weekday processing, including adding important dates from emails to a calendar.
- **Translation platform:** Built Rosetta (Python/PHP) for multilingual document translation and version control. Consulted international translators, kept their familiar document formats and added Google Cloud Translate, cached translation, change tracking, automated PDF generation and a secure self-service portal. Supports thousands of users.
- **Security:** Developed suspicious-traffic detection with per-IP tracking, escalating temporary bans and Linux firewall integration. Banned 385,000 IP addresses in roughly its first ten months and improved response times for genuine users.
- **Payments and email:** Built billing, member store and payment workflows with Stripe, plus personalised email with activity-based segmentation, queue processing and delivery analytics.
- **Authentication:** Moved an international membership from long-lived passwords to magic-link and Google sign-in, supporting non-technical users through individual conversations.

- **Infrastructure:** Migrated organisation-owned data-centre hardware to managed virtual servers with no interruption to live services. Administered Linux hosting, MySQL/MariaDB replication and backups, and email authentication (SPF, DKIM, DMARC), with Amazon SES for delivery.
- **Certificates and automation:** Built QR-verified online certificates that removed postage and reduced forgery risk. Certificate Credits automation removed around three staff days of administration per week.
- **Integrations:** Developed a Facebook Pages publishing integration using the Meta Graph API, and installed, maintained and extended WordPress sites with custom plugins.
- **Leadership and compliance:** Supervise and develop staff, including recruitment, onboarding and appraisals. Responsible for financial administration, accountants, VAT, HR and GDPR obligations. Present at company events and conferences.

Software Developer | Bulldog Engineering Recruitment

Brighton | 2000 to 2002

- Replaced paper-based candidate, vacancy and placement workflows with an integrated SQL Server database and Access/VBA application, adding validation, role-based permissions, reporting and automated documents. Reduced processes that previously took weeks to minutes.

// SELECTED PROJECTS

- **Trafalgar 1805 Live Battle Map:** Offline-first progressive web app animating the Battle of Trafalgar. TypeScript, React, PixiJS/WebGL, service-worker caching, JSON Schema data validation, Vitest and Playwright tests, GitHub Actions CI. github.com/alexckent/BattleOfTrafalgar
- **AI code and review workflow:** Designed a GitHub-mediated process pairing OpenAI Codex implementation with Claude review, structured JSON feedback, a 15-cycle limit and a final security review. Produced about 20,000 lines of PHP, HTML, JavaScript and Smarty in 12 hours.
- **Genealogy research platform:** In development: AI-agent software for archive discovery and source tracking.

// EDUCATION

MSc Artificial Intelligence and Adaptive Systems | University of Sussex

2024 to 2025 | Merit, overall mark 72%

Advanced Natural Language Processing 91%; Applied Natural Language Processing 86%; Adaptive Systems 84%; Machine Learning 70%.

- **Distributed research engineering:** Built a shared-filesystem execution system across up to 105 lab computers when institutional firewalls blocked standard frameworks. Completed 796 experimental folds in about 20 hours for an MEG brain-state classification dissertation comparing SVM, Random Forest, CRNN and Transformer models.
- **NLP evaluation:** Fine-tuned DeBERTa and RoBERTa for propaganda detection against TF-IDF and zero-shot LLM baselines. DeBERTa reached 78.59% held-out accuracy.

BSc (Hons) Computer Science with Management Studies | University of Sussex

1999 to 2002 | 2:1

// ADDITIONAL

Remote pilot: NQE full-category course (3iC), multi-rotor; Eastbourne Drones, 2020.

Interests: Teaching salsa and bachata, including founding a local outdoor community dance group in Eastbourne; cryptography and quantum technologies; family-history research.

Also: UK driving licence.