

Mobile: +44 7522 189 121

E-mail: rad@mira-labs.com

Site: <https://radicalrad.mira-labs.com/>

LinkedIn: <https://www.linkedin.com/in/radicalrad>

RAD ZAJACZKOWSKI

With over 24 years of extensive experience in the field of Information Technology, encompassing both hands-on coding and architectural expertise and consultancy roles, I possess a profound understanding of the industry. My professional focus lies in leading positions that entail solutions architecture and engineering, managerial responsibilities, consulting engagements, development team management comprising more than 100 members, business analysis, quality assurance, as well as end-to-end product ownership spanning from strategic planning to operational implementation.

I played a pivotal role as a co-inventor in the development of a cutting-edge product designed to detect, alert, and report vehicle accidents, specifically focusing on First Notice of Loss (FNOL) capabilities. Taking charge of the technical aspects, I successfully headed the process of patenting the intellectual property (IP) associated with the solution, resulting in the acquisition of patent number GB2566849, which encompasses both hardware and software innovations.



[Patent Number GB2566849](#) (IPO)

Application title: An intelligent electronic sticker

(AI-powered hardware, mobile and multiple web service solution)

KEY TECH SKILLS

- **Full-Stack Development:** mobile, frontend/backend, and hardware/IoT solutions.
- **Technologies I use:** Python, React/Angular and Node.js, Flutter/Dart, PHP (Laravel/Symfony), Java (Android native apps and Springboot and Struts for backend), Go, C/C++ for both firmware and POSIX applications.
- **Machine Learning:** training and optimizing AI models with scikit-learn, Keras, PyTorch, AWS SageMaker, Google TensorFlow, R language, and implementing LLMs on both AWS and GCP incorporating AI-powered coding assistance tools into the development workflow, including continuous integration within Infrastructure as a Service (IaaS) or Infrastructure as Code (IaC) environments – Salesforce CodeT5/CodeT5+, OpenAI Codex as well as ChatGPT/Github Copilot, Codiga and more.
- **API:** RESTful and Websocket. Serverless on GPC and AWS with Lambda functions, Flask/FastAPI with Python, GraphQL with Amplify,
- **Data architecture:** ETL with data lakes, warehouses, medallion architecture, modelling, analysis, and visualization: MySQL/MariaDB/AWS Aurora, PostgreSQL, SQL Server, and NoSQL like DynamoDB, MongoDB, big data systems like Cassandra, ClickHouse, Hive, Tableau, Apache Spark, Hadoop, Databricks
- **Messaging and Event-Driven Architecture:** Utilizing messaging services in event-driven architecture with RabbitMQ, ZeroMQ, Apache ActiveMQ, SQS, various OLAP technologies, and data streaming using Apache Kafka, AWS Kinesis, Google Cloud Data Flow
- **Cloud Infrastructure:** AWS infrastructure and services like Amplify, AppSync with Cognito/IAM provisioning with Terraform

- **Microservices Architecture:** Designing microservices architecture and implementing serverless APIs using Go, Python, and Node.js in both AWS and GCP with use of all applicable or required services.
- **TDD:** testing frameworks like jUnit, Mocha, Jasmine, Selenium, jMeter, PHPUnit, odeception, pytest.

KEY LEAD SKILLS

- I have served as a Lead Engineer and CTO, leading technology initiatives and guiding the overall technological direction of organizations with expertise in handling technology aspects of mergers and acquisitions, ensuring seamless integration and leveraging technology for business growth.
- I have been responsible for overseeing the development and deployment of technology solutions across various contracts, including vendors, internal projects, and external partnerships.
- My capabilities extend to defining strategy, planning, roadmapping, business development, and account growth, as well as managing data-driven decision-making processes.
- I have a proven track record in driving continuous transformation through effective change management practices, adapting and evolving technology initiatives to meet changing business needs.
- Additionally, I excel in motivating and inspiring team members, creating a positive team culture, and providing guidance and support to maximize their potential,
- Experience in regulated industries (insurance), specialising in developing compliant, scalable solutions for sensitive data protection, privacy, and governance in alignment with UK regulatory standards (e.g., GDPR, FCA)

EXPERIENCE

04.2024 - present - Butterflycannon - Lead engineer/CTO - (Mira Labs contract)

Butterflycannon is one of the leading branding agencies specializing in crafting compelling brand narratives and visual identities. Focusing on leveraging the power of beauty, they create enduring stories and impactful experiences that resonate with audiences.

- Developing and maintaining brand and client websites using technologies such as React for the front end and WordPress for the backend, ensuring a responsive and user-friendly experience.
- Implementing Python-based backend solutions for online shopping platforms, including secure payment processing with Stripe integration, to facilitate seamless transactions. Technologies used include Flask for building RESTful APIs. The systems also heavily rely on Golang microservices with ZeroMQ migrated to NATS and Kafka (Protobuf) for communication.
- Utilizing database solutions such as MySQL for structured data management and DynamoDB for scalable, high-performance NoSQL storage to handle diverse data requirements and high traffic volumes.
- Leveraging machine learning algorithms in the backend to analyze customer preferences and behavior, enabling personalized shopping experiences and targeted marketing strategies.
- Delivering customized website solutions for high-profile clients, including Whoopi Goldberg, Jack Daniels, Hennessy, Brook 37, and Elle, ensuring brand consistency and optimal user engagement.

- Designing and executing an efficient e-commerce strategy, incorporating robust security measures, scalable architecture, and intuitive user interfaces to support high-profile clients in effectively selling their products online,
- Ensuring website performance, security, and scalability by implementing best practices in web development, database management, and server optimization.
- Collaborating closely with clients to understand their requirements, providing tailored solutions that translate technical specifications into dynamic and engaging websites.
- Monitoring and analyzing website performance metrics to continuously optimize user experience and drive sales conversions,
- Led a cross-functional team in designing and deploying a GDPR-compliant data management platform, eliminating majority of data breach risks,
- Directed the implementation of privacy-by-design principles in key systems, ensuring that all projects adhered to UK and EU data protection standards,
- Collaborated with legal and compliance teams to deliver technical solutions that met regulatory requirements, reducing the time needed for regulatory audits.

09.2023 – present – KARER - CTO/Lead Engineer - Technology Strategist (Mira Labs contract)

- Designed and developed a mobile app integrated with a device to enhance care for vulnerable individuals living alone. The app features emergency alerts, location tracking, and environmental monitoring (temperature, humidity, PIR sensors, fire detection) using Flutter for the front end.
- Implemented machine learning algorithms using popular packages such as TensorFlow, scikit-learn, and PyTorch to analyze behavior patterns and trigger notifications to designated contacts when anomalies are detected. Python (Flask) and Golang (Protobuf, NATS, Kafka) were utilized for the backend.
- Developed an in-app platform for mental health support, enabling users to engage in privacy-protected conversations with others who have similar interests and experiences. The system uses machine learning to facilitate meaningful connections and provide tailored support based on users' interactions, leveraging APIs for large language models (LLMs) like OpenAI's GPT.
- Solely responsible for forming the technology strategy and roadmap, ensuring alignment with company goals and user needs.

09.2022 – 09.2023 - CTO/Lead engineer (Mira Labs contracts, collaboration with multiple companies, lead team of 10+)

1. **Esteon** – test site: <https://esteon.mira-labs.com> - a SaaS/CRM type residential estate management system
A system aimed at streamlining communication between residents, staff, estate management and various parties such as couriers, suppliers, contractors, and third-party legal entities. I actively participated in the implementation of a proof of concept to validate the proposed approach and solutions, and I oversaw the successful delivery of the product.
- Created a **mobile application** for residents and contractors, providing essential functionalities such as messaging, issue reporting and tracking, delivery notifications, and more, enhancing convenience and facilitating effective communication.

- Created a **desktop web application** for front desk operations, enabling efficient management of residents, contractors, and visitors through features like security passes, resident management, legal/service management, delivery reporting, procurement management, issue tracking, inspection reporting, and comprehensive data analysis.
 - Employed advanced AI/ML techniques to perform comprehensive statistical analysis on all collectable data, enabling the identification of trends and predictions to enhance decision-making processes.
 - Leveraged technologies such as React and Next.js for the desktop application, Flutter for the mobile app, Java (Spring) and Python for custom backend services. Implemented an event-driven architecture with extensive utilization of Golang and Python in AWS Lambda functions and Google Cloud Dataflow and (Pub/Sub) and Apache Kafka with BigQuery and Google Cloud Functions for Firebase integration. PHP 8.1/Laravel 9 for management admin panel and data visualization with Tableau
 - Utilized infrastructure components like AWS Amplify with Cognito authentication, Google Services with Firebase for push notifications from Kafka events. custom APIs with API Gateway and trusted Nginx/Gunicorn Python servers, Python AWS Lambda functions, Google Cloud functions, custom web services with Flask/Gunicorn, and leveraged DynamoDB/PostgreSQL for data storage. Implemented efficient handling of AWS SES emails.
2. **Karer App** - an NHS co-funded app for vulnerable individuals which protects users and alerts their trusted contacts in case of an emergency. Key features: check in at regular intervals to confirm users' safety, panic button, location tracking with use of GPS for real-time updates on users' whereabouts, emergency contact list such as family members or close friends, automatic alerts to emergency contacts if other triggers are activated.
- Technologies: Java for native hardware level API on Android, Flutter, Golang and Python for custom backend services and ML, PHP 8.1/Laravel 9 and React for admin panel, MySQL/Redis support for fcm token management (handling Firebase push notifications)
 - Infrastructure: Full use of AWS Amplify and Google Firebase as well as AWS Cognito and other parties' authentication (Google, Facebook) with custom background tasks handling, custom APIs with API Gateway, Lambda and DynamoDB/AWS Aurora, and AWS SES emails handling,
3. **talkhear.com** - a part of the above mentioned Karer system, it's conversation portal which matches individuals based on their interests, preferences, and personality (mental health support)
- Data collecting with help of custom NLP, improving the conversation "engine" with use of ML/AI solutions.
 - Technologies: PHP (v7.4 migrated to v8.2) with Laravel (v5.6 migrated to v9) for admin panel and data visualization, various PHP (Symfony/Laravel) /JavaScript libraries for front-end and site serving back-end (Nginx), Python with sci-kit learn/React.js for admin, machine-learning and various microservices, Golang for microservices and event driven messaging
 - Infrastructure: AWS EC2 (Docker containers in ECR) with MySQL in AWS Aurora, Node.js and Python serverless API Gateway with Lambda, DynamoDB,
 - Designed and implemented core security features, including encryption and data masking, in systems handling sensitive customer data, ensuring compliance with UK privacy regulations,
 - Collaborated with policy and legal teams to create technical documentation and evidence for regulatory audits, reducing compliance review times by 30%,
 - Led initiatives to modernise systems for compliance with new regulatory requirements, improving overall system resilience and reducing operational risk,

07.2022 – 09.2022 – iWarranty – Lead Engineer (hands-on, managed a team of 5+)

iWarranty is an online warranty management start-up, the goal is to streamline the warranty and claims. My

role was to deliver the process of handling consumers', manufacturers', sellers', and repairers' communication via single app. I was tasked with overseeing the technology aspect of the business to ensure the timely delivery of necessary solutions.

- The purpose of the contract was to develop and release a multi-platform MVP
- Managed development of a PWA compiled through Capacitor for different end user/commercial types of accounts.
- Refined the back-end solutions for admin management – Python/Django
- Mentored the frontend team using React.js to communicate with both AWS and GPC (Various services like Maps and Firebase integration)
- Migrated monolithic API architecture towards serverless API with use of AWS Lambda with support from experimental microservices
- Designed and built a python data analysis engine with data warehouse architecture using of Google Cloud: Dataflow, Pub/Sub, BigQuery, Dataprep, Firestore, Spanner, Composer, etc.
- Managed the development team working in multiple time zones onsite and remote.
- Led transition from React PWA to Flutter

01.2022 – 01.2023 – insurtech clients - CTO/Lead developer (Mira Labs contract through Consultingly Ltd., team of 10+)

Whilst working within the insurance industry for years and understanding the heavily regulated businesses since 2016, I was responsible for the following:

- Architecture and development of real time image recognition solutions in videos from the major streaming platforms CCTV – AWS, GCP, Python, sci-kit learn, TensorFlow on Google Cloud Platform
- Home insurance solutions detecting leaks and power failures – C/C++ (prototyping and firmware), AWS, Python sci-kit learn, Java (Spring/Struts) and Node.js backend
- Multiple admin panels using PHP (7.4 – 8.1) and Laravel (v8 and v9), ClickHouse and Tableau
- React frontend with use of Next.js
- Microservice driven solution architecture with Golang execution (NATS/Kafka),
- Magento based online stores with PHP and Node.js APIs
- Native mobile Apps using Java for Android, Swift for iOS, Flutter,

01.2021 - 01.2022 – Ignis (digital marketing), UK – CTO/Lead engineer of Mira Labs development team (25+)

Ignis is a digital marketing company focusing on events with international enterprise clients such as JTI, ASAHI, and Britvic. As CTO I was responsible on all campaigns and deliveries, managing teams and resources meeting demands from overseas stakeholders. I regained business with Ignis forming a work relationship back in 2016/2017.

- Developing multiple progressive web applications, and web-based campaign management systems:
 - Backend for web app for Asahi and affiliated venue owners - <https://www.mastersofsuperdry.com/> - Vue.js + Symfony on AWS, MySQL on AWS Aurora
 - JTI human rights e-learning portal with training materials - 17 different games/tests in 40 languages - Vue.js/jQuery/Symfony with WordPress for CMS, all working in AWS infrastructure,
 - Britvic/Pepsi/Cineworld - Christmas campaign works - multiple PWA's - will provide links to staging sites or designs upon request and approval from Ignis
- Universal ML based translation engine built in Python with scikit-learn and flask

- Technologies: *Python, node.js, Golang, PHP (7.4 – 8.0) Symfony and Laravel 5.2 - 8*, everything dockerised on AWS managed with Kubernetes.
- Magento based online sales system,
- Led strategic initiatives to drive compliance readiness across the organisation, resulting in successful regulatory assessments with zero critical findings

05.2018 - 03.2020 – esure (insurance), UK – Lead Engineer - Innovation lab (team of 25+)

As the Lead Engineer at esure, a £1.2 billion insurance company, operating within their innovation hub, I held a managerial role with responsibilities encompassing the implementation of new technologies and solutions, with a particular focus on intellectual property. I played a pivotal role during the M&A period, offering guidance to the Chief Technology Officer, business architects, and both internal and external engineers to ensure the ongoing progress of the technology division. I led the development of innovative software and hardware solutions within the innovation hub, contributing to the event-driven architecture for business enhancement.

- Technologies utilized: *Java for Android and Spring backends, Swift, Flutter, Python, Node.js, Golang, R language, PHP, and AWS cloud services (with Amplify/AppSync) as well as Google App Engine, React and Next.js*
- Created and patented an in-car hardware device for detecting and alerting detailed analysis for vehicle accidents.
- Developed customer-oriented smartphone apps to handle FNOL and aggregate data for sales.
- Integrated third party systems into company's existing platforms for new mechanics for the purpose of customer communications.
- Study into AI for business use cases. Testing for results with natural language processing, augmented reality and real-time object identification built in TensorFlow.
- Implemented AWS cloud services and structured internal infrastructure for innovations lab team with Docker.
- Implemented Google Cloud Platform services for both AI and mobile integration, data flow (Dataflow service with Pub/Sub), used Kubernetes with GKE/GCR services.
- Delivered solutions for data analysis such as Individual risk analysis for car, home, possessions, health, and job. Projecting the collected data for marketing, sales, and end users.
- Built a PAYG insurance app with a risk version of "surge-pricing" to influence the behavior of a driver through the cost of their drive. Such elements are traffic, road type, black spots and weather influenced the risk and pricing for the model.
- Explored voice interaction and AI for devices - engineering tech solutions for Amazon Alexa and Google Home to connect sales to customers. Voice channels allowing customers to physically talk to esure systems to renew their policy (voice based chatbot).
- Product prototyping for the market, from research to physical testing and patenting process.
- All admin panels and web interfaces built in PHP 7.2 – 7.4 with Laravel (5.2 – 5.6) with extensive live data visualization capabilities.
- Immersed my knowledge in insurance intricacy and company business model, consulted tech for business motivations and goals with the CEO, CTO, marketing, and digital team.
- Pioneered the creation of a secure data-sharing platform that allowed for compliant data usage across multiple departments, enhancing collaboration while maintaining strict adherence to industry regulations.
- Directed the development of machine learning models that leveraged customer data while ensuring compliance with UK data protection laws and industry-specific regulations.
- Introduced automation tools that streamlined the data governance process, reducing the manual workload

by 35% and improving accuracy in compliance reporting.

12.2017 - 04.2018 – dataspin.co (*data science for businesses*), **UK/USA** – CTO (department of 25+)

In 2017 I worked together with the co-founders of Dataspin as CTO during the initial start-up phases. I refined their business model which relied on AI and machine learning. Their USP offered pre-trained machine learning models for typical business situations.

- Pipelined the tech strategy to lead the company towards becoming a data science trendsetter as a major USP within the next 3 years.
- Acted as a representative of technology for business to US based investors as the bridge between existing business and digital.
- Technologies used: Java (Spring), Python, Django, scikit-learn, Golang, AWS and AWS services including SageMaker, APIs, Message Queueing, Kubernetes orchestrated microservice and Architecture.
- As a hands on tech lead I developed a service-oriented architecture (SOA) machine learning platform to perform big data analysis, using minimal human input and pre-trained mathematical models.
- Consolidated different platforms to execute tasks the most efficient way.
- Proposed unique algorithms for businesses to solve specific data science problems.
- Defined the company standard for ISO 27k/ISO 9K security and quality control policies.
- Implemented and managed TDD/BDD and Agile/Kanban project development.
- Addressed the possible data privacy issues given the outcome of the current social media related concerns.

2016 - 2017 – Ignis (*digital marketing*), **UK** – CTO (department of 50+)

I led the company's shift towards a tech-focused model, managing both IT/development operations and the associated organizational changes. My role included overseeing daily tech activities and guiding the company through a successful transition to embrace a technology-driven culture. Designed all business-critical systems for clients - supporting sales during open air festivals using telemetry data which used data analysis to manage stock replenishment in real time.

- Building custom till software, analysis platform, real time data analysis platforms.
- Managing engineering of POS operations in airports and venues.
- Technologies: Java for the till "embedded" software, PHP 7.2 – 7.4 with Laravel (5.2 – 5.6) for admin panels, Angular.js, Vue.js
- Magento based online sales system, Python, Node.js APIs on AWS

2016 – Payfriendz (*FinTech*), **London** – System Architect/Lead Developer (20+)

Leading development and consultancy for backend architecture in a team of 10 in-house developers and overseas developers. Managed the design, architecture, build, deployment, and lifecycle for the principal product. Build machine learning based risk engine and bank like solutions based on data from partners like MasterCard. All backend systems were built using Golang for microservices and Python for Machine learning. Kubernetes used to handle infrastructure made of multiple Docker containers.

- Designed secure payment systems with end-to-end encryption and tokenization to protect cardholder data during top-ups, withdrawals, and transactions, ensuring compliance with PCI-DSS and GDPR,
- Implemented data governance frameworks that align with FCA regulations, including stringent access controls, audit trails, and real-time monitoring to prevent unauthorized access to sensitive financial information,

- Led the development of privacy-first architecture, integrating GDPR and FCA regulatory requirements, ensuring compliant data handling throughout the payment lifecycle while minimizing fraud risks

MORE EXPERIENCE (PRE 2016)

2015 - 2016 – Efficio (*procurement*), **London** – Senior Software Engineer

As a senior developer specializing in custom big data handling architecture, I integrated machine learning into the company's proprietary prediction engine using Python, providing robust support for a PHP-based web system (Symfony/Laravel) and Java legacy backend. Additionally, I played a key role in refining the architecture of data processing systems tailored for the procurement team.

2014 - 2015 – Design2taste (*B2C*), **London** – CTO (team of 20+)

I was responsible I was responsible for the IT strategy and lead the startup to 'scaling' stage. I designed, built, and managed their large international B2B platform with use of Magento 1 and 2. I managed the development, infrastructure, and all DevOps processes.

2013 - 2014 – Oliver Marketing (*digital media*), **UK** – Head of Systems Development (team of 100+)

Leading as a senior management team member in shaping strategic direction of IT related products and services. Engaging with clientele, understanding business needs for sales, leading campaigns, and growing the relationship: KPMG, Starbucks, Britvic, Bank of Ireland, Vodafone, HTC, Steljes, The Economist, Radisson and DCL. Liaised with both clients and suppliers in terms of technology-based decision making. Magento based platforms for Britvic and Starbucks. Utilised various technologies ranging from PHP to Java.

2013 - 2013 – AEG Europe (*entertainment*), **UK** – Lead Application Specialist - Lead Developer (team of 10)

Led a dev team, managing all projects and built the O2/Thames Clippers online ticketing system in PHP/Magento.

2012 - 2013 – BrocklebankPenn (*Digital Media*), **UK** – Senior Back - End developer

Senior developer tasked with backend development, maintained all built platforms and servers.

2007 - 2011 – Fortevita (*IT, customer service*), **Poland** – CTO (department of 200+)

- Implemented and managed the whole IT infrastructure and the entire IT department.
- Managed building a VoIP call centre
- Designed and built all software and hardware solutions for the call centre.

2005 - 2007 – Lynic Group (*Media production*), **UK** – Production manager (team of 100+)

Developed a waste management system for the efficiency and security of manufacturing CD/DVD units.

2003 - 2005 – Coroplast (*automotive*), **Poland/Germany** – Production manager (department of 100+)

Managed manufacturing of ABS Harnesses used in all cars from the Volkswagen Group.

ACADEMIC ACHIEVEMENTS

2001 - 2003 Master's degree

National Louis University Poland (WSB)

Specialty studies for marketing and management, ERP systems, IT in business, Developing decision support application, IT security, Data flow.

Dissertation: "Beowulf cluster – parallel computing in Linux".

1998 - 2001 Bachelor's degree

National Louis University Poland (WSB)

Specialty studies for e-business, Web development, Project management, Systems administration (win/Unix), Managing e-business.

Dissertation: "E-strategies – ways of creating competitiveness on the Internet".

FIND OUT MORE

You can find all my connections and references directly online via LinkedIn.com [linkedin.com/in/rad-zajackowski-574aa716b](https://www.linkedin.com/in/rad-zajackowski-574aa716b). All companies I have worked with are also detailed in my LinkedIn profile. For personal references, the following contacts can be provided:

- **esure** – Ian, Product management director
- **Dataspın** – Alessandro, CEO
- **Ignis** – Stephanie, Managing Director
- **Payfirendz** – Huy, CTO
- **Efficio** – Mike, Senior Infrastructure Engineer