

PROFILE

Lead architect and senior full-stack engineer with 11+ years taking products from concept to production, most recently as founding engineer of two university health-tech platforms. Believes good governance and privacy-first principles are what make software trustworthy, especially as AI moves into high-stakes settings, and brings that depth (IAPP AIGP) to health, AI and other regulated products.

CORE SKILLS

Engineering	Python, Laravel / PHP, Vue / Nuxt, JavaScript, REST APIs, HL7 FHIR (HAPI), React / Next.js, Objective-C, C++
Cloud & data	AWS (CloudFormation, CodeBuild, Step Functions, S3, Glue, Athena, EC2, RDS), ETL, medallion-layered data lakes, Docker, CI/CD
ML & optimisation	Model integration, Google OR-Tools, scheduling and routing
Leadership	Architecture ownership, technical direction, clinical and research partnerships, code review, production operations, Jira, Confluence
Privacy & quality	GDPR, DPIAs, privacy by design, EU AI Act, EU MDR, ISO 13485, IEC 62304, IEC 62366-1, WCAG accessibility, IAPP AIGP

EXPERIENCE

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2026 – Present • Remote

Founder / Independent Consultant • *Privacy, AI-governance and software engineering consultancy*

- Advise founders and product teams preparing to launch, scale or raise investment on technical architecture, delivery, privacy-first engineering and EU AI Act readiness.
- Delivered technical consultancy to Karenua Ltd, the CommPAL spin-out, covering infrastructure, documentation and platform handover.
- Speaker, "Ship Fast Without Creating a Compliance Time Bomb", a workshop for founders, developers and product teams (Da Nang, Vietnam and Chiang Mai, Thailand, 2026).

CommPAL University College Cork • spun out as Karenua Ltd, 2026

2022 – 2026 • Remote

Founding Engineer / Technical Lead • *AI decision support for palliative-care triage and nurse caseload planning*

- Designed the end-to-end architecture and led delivery across the clinical web application, data platform, model integration, HL7 FHIR (HAPI) interface and AWS infrastructure, owning DevOps, production and test environments, performance tuning, cost and licensing.
- Designed and built a regional, medallion-layered AWS data lake fed by automated hospital ETL (SFTP, S3, Step Functions, Glue, Athena), with agreed data-quality standards, validation and retries, scaling throughput with batching and queuing.
- Engineered the platform with medical-device requirements in mind (EU MDR, ISO 13485, IEC 62304, IEC 62366-1), working alongside the quality and regulatory process.
- Built infrastructure as code (CloudFormation, CodeBuild) to provision temporary model-processing compute in Australia, process partner data in-region and tear the environment down after each run; completed several iterations on Australian datasets under a pilot agreement.
- Integrated bespoke in-house triage models with a third-party optimisation model (Google OR-Tools) to generate daily nurse caseloads and routes, having evaluated alternatives on cost, licensing and speed.
- Owned the wider technical estate, including the website, domains, cloud and third-party accounts, technology budget, role-based access for partners and contributors, and the data lifecycle from collection to deletion.
- Led technical engagement with hospital partners, clinicians, ethics, procurement and investors; reviewed contributing developers' code and authored the technical documentation.

MyUSE University College Cork • national rollout via ESHEILD

2019 – 2026 • Remote

Founding Engineer / Technical Lead • *Digital harm-reduction intervention for university students*

- Architected and built the service from research outlines to a live product with 10,000+ registered users (Vue/Nuxt PWA, Laravel API, AWS EC2 and RDS).
- Designed a separate database per client institution, with an onboarding and migration process for new clients and per-client content, branding and modules.
- Led product development with psychologists and researchers, and built a CMS so the research team could change intervention content without developer involvement.

- Improved performance through bundle and media optimisation, lazy loading, caching and leaner API endpoints, reaching Lighthouse scores of 100 for performance and accessibility.
- Also ran the website, domains, third-party services and technology budget, with role-based access for partner institutions and contributors and a defined data lifecycle.
- Selected as the digital tool for ESHEILD, a Department of Health-funded programme launched at UCC in 2025 to provide MyUSE to six Irish higher education institutions.

University College Cork
MSc in Design and Development of Digital Business

Sep 2021 – Oct 2025 · Cork, Ireland

Lecturer (Contract) · *Programming for Web Applications and Services 1 & 2*

- Lectured and administered both modules, keeping material current with modern web technologies, and designed activities and assessments covering application design and architecture.

EARLIER EXPERIENCE

Techsquad
QuickMinutes and Wagerr

Sep 2018 – Nov 2019 · Cork, Ireland

Full-Stack and Blockchain Developer · *Commercial SaaS and blockchain products*

- Helped rebuild QuickMinutes, an established commercial SaaS product, including its scheduling features, with Vue, Vuetify, Laravel and MySQL.
- Architected a Python oracle node for the Wagerr blockchain that published sports-event data as transactions over JSON-RPC, using compact binary encoding to minimise payload size and processing each new block to handle event and bet metadata; contributed to reproducible Gitian builds.

AudioRhoon

Apr 2017 – Sep 2018 · Remote

Lead iOS Developer · *Assistive technology for people with severe disabilities*

- Led iOS product delivery across 10+ Objective-C codebases, owning UI/UX and App Store releases, correcting calibration problems in a third-party breath-input device SDK and keeping the apps compatible through iOS changes.

Rocudo

Jun 2015 – Nov 2017 · Galway, Ireland

Software Developer · *Web, mobile, device and audio products for clients*

- Led architecture and development of several client MVPs combining web, mobile and Web Audio technology on Google Cloud Platform (App Engine), with Python/Django and JavaScript back ends.
- Built the REST services and device integrations behind these products, working with native Objective-C and Swift libraries for audio management, and managed iOS/Cordova releases.

CERTIFICATIONS & TRAINING

Certifications	Artificial Intelligence Governance Professional (AIGP), IAPP, 2026; AWS Cloud Practitioner
Training	Medical-device risk management; QMS design controls
Memberships	International Association of Privacy Professionals (IAPP); Association for Information Systems (AIS); The AI Collective

EDUCATION

Higher Diploma (Industry Stream), Software Development and Design	National University of Ireland, Galway	2014 – 2015
M.A., Music Technology	Cork Institute of Technology	2011 – 2012
B.A., Economics and Politics	University College Cork	2008 – 2011

PUBLICATIONS

Lottfivand, N., Dillon, B., Lynch, L., Heavin, C. (2024). "Enhancing palliative care triage: decision support system for patient prioritisation." *Journal of Decision Systems*. DOI

Daly, N., Byrne, M., Dillon, B., Heavin, C., Northridge, J. "Implementing website accessibility standards in higher education: lessons learnt." *The AHEAD Journal*, Issue 15. Article

Dick, S., Dillon, B., Vasiliou, V.S., et al. (2021). "Reducing the individual, institutional and societal harms from student drug use." *7th International Conference on Higher Education Advances (HEAd'21)*, pp. 465–472. Paper

Dillon, B., Vasiliou, V.S., Dick, S., et al. (2020). "Changing the wheels on a moving car: leveraging a content management system to develop an extensible digital intervention." *Pre-ICIS SIGDSA Symposium*. Paper

Vasiliou, V.S., Dillon, B., Dick, S., et al. (2020). "A new clinical algorithm embedded in a contextual behavior change intervention for higher education student drug use." *Pre-ICIS SIGDSA Symposium*. Paper