

NAVAL BHANDARI

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SUMMARY

Product-minded engineer with 13 years' experience across startups, research and consultancy, including leading a team of 14 as Principal Software Engineer and a team of 9 as VP of Software Engineering. Focused on backend and distributed systems, core data models and large-scale migrations, working across teams from architecture through to production. Background in ML infrastructure, optimisation, compilers and AR/VR, with an EngD in virtual reality.

EXPERIENCE

Nory | *Senior Product Engineer*

Jul 2025 – Present

- **Automated Scheduling:** Develop Nory's automated scheduling product, which generates labour-law-compliant staff rotas for hospitality businesses across the UK, Ireland and US. Consolidated three generations of the scheduling engine into a single optimisation engine (CP-SAT/MIP) that generates 40,000 schedules a week in parallel.
- **Rules Inference & Validation:** Built rules inference that derives each customer's scheduling rules from their historical data, and a nightly validation pipeline that benchmarks generated schedules against real ones before changes ship.
- **Schedule Versioning & Approvals:** Owned delivery end to end across data model, APIs and UI, including version history, approval workflows and live compliance checks.
- **Cross-Team Architecture:** Delivered platform changes across teams, including extracting the finance domain from the monolith into a dedicated service, migrating background jobs to durable, autoscaling workflows and removing around 15,000 lines of legacy code.
- **Developer Experience:** Reduced CI time from 40 to 8 minutes, led an app-wide frontend routing migration, standardised data fetching behind shared hooks and introduced end-to-end testing.

Freelance | *Consultant Engineer*

Jul 2023 – Jul 2025

- **Consultancy:** Designed, built and deployed full-stack web applications for clients, from technical discovery through to post-launch support. Typically Node.js or Python APIs with Prisma or SQLAlchemy, PostgreSQL or MongoDB and React, containerised with Docker on AWS, GCP or DigitalOcean.
- **Marketing Client – Social Media Platform:** Built a collaborative platform for marketing teams to draft and review social media content, with OpenAI-assisted drafting for LinkedIn, Instagram and Facebook, role-based review, autosave and a Draft.js rich-text editor with live preview and direct publishing.
- **LegalTech Client – Conveyancing Platform:** Built a conveyancing platform for a legal firm, tracking hundreds of data points per transaction across title checks, contract milestones and documents, with Stripe Identity verification, secure uploads, digital signing and full audit logging for compliance.

Laka

Principal Software Engineer

Jun 2022 – Jul 2023

Senior Software Engineer

Feb 2022 – Jun 2022

- **Technical Leadership:** Led a team of 14 engineers building Laka's backend platform of Go, Node.js and TypeScript microservices, communicating over gRPC and serving a Next.js frontend via GraphQL. Delivered the core data models and foundational policy code underpinning the product.
- **Billing Platform:** Designed and built the billing system as a dedicated service, fully automating reconciliation that previously relied on manual scripts run across every policy.
- **Testing & CI:** Introduced integration testing on ephemeral Kubernetes (kind) clusters, with Gherkin/Cucumber scenarios covering service interactions, data seeding and assertions, and established mock-based Go unit testing with gomock. Significantly reduced CI times on a GitHub Actions pipeline deploying to EKS via Helm.

Mystic

Vice President of Software Engineering

Dec 2020 – Oct 2021

Senior Software Engineer

Mar 2020 – Dec 2020

Software Engineer

Sep 2019 – Mar 2020

- **Technical Leadership:** Led a team of 9 engineers and built the company's core platform from the ground up, spanning ML training and serving APIs, the Python SDK, infrastructure and compiler tooling.
- **Neuro API:** Python Flask API for ML training and prediction, with a GraphQL layer serving the dashboard, built on MongoDB, PostgreSQL, Celery, RabbitMQ, Redis, Gunicorn, Nginx and S3.
- **Neuro Python SDK:** Client library wrapping the REST API, supporting model serialisation across multiple ML frameworks and asynchronous training and prediction pipelines, documented with Sphinx.
- **Infrastructure & Scaling:** Ran all services as Docker containers on Kubernetes, with CircleCI and git hooks driving tests and deployments. Built a custom master-worker orchestration layer to distribute ML workloads and an AMI-based autoscaler on AWS.

- **Graph Decomposition & Compiler:** Decomposed ML models into optimised forward and backward graphs compiled down to bytecode, and developed parts of a C# compiler for an in-house FPGA language, covering tokenisation, heap management and data types.

BMT | *Research Engineer (C#)*

Oct 2016 – Sep 2019

- **AR Flight Visualisation:** Real-time and recorded 3D AR display of flights over terrain, integrating multiple APIs for origin, destination and aircraft data.
- **Multiplayer VR:** Built the server and client networking for a multiplayer VR scenario.
- **AR Identification:** HoloLens facial recognition app matching faces in view against registered identities.
- **AR-VR Streaming:** Streamed HoloLens spatial meshes and camera feeds to VR headsets, letting VR users share the same 3D space as an AR user.

University of Bath | *Research Assistant & Teaching Assistant*

Oct 2015 – Sep 2019

- **Research:** Contributed to projector-based AR systems for rendering directly onto physical products and for metrology.
- **Teaching:** Taught and marked 2nd and 3rd year Computer Graphics and Vision modules.

OHS | *Software Developer*

Aug 2013 – Oct 2016

- **Document Generation:** Built a L^AT_EX-based PDF generation system with C# Windows and web services, driven from iOS and Android apps.
- **Site Surveying App:** Android app for digital building-site surveys, with conditional question logic and photo and video capture synced to a web service.
- **Operations Dashboard:** C# desktop dashboard for office screens showing work-completion analytics, with custom-built chart widgets.

SKILLS

Languages	Python, TypeScript, JavaScript, Go, C#, Java, C++, C, SQL, Haskell, Objective-C, MATLAB
Backend & Data	Node.js, Flask, GraphQL, gRPC, PostgreSQL, MySQL, MongoDB, Redis, RabbitMQ, Celery, Prisma, SQLAlchemy, Snowflake, dbt
Frontend & Mobile	React, Next.js, Android, iOS, Playwright
Cloud & DevOps	AWS, GCP, Azure, Heroku, Docker, Kubernetes, Helm, Terraform, Nginx, Traefik, Bazel, GitHub Actions, CircleCI
AI & ML	LLM integration and prompt design, ML training and serving pipelines, graph optimisation
Other	Optimisation (CP-SAT, MIP), Unity, OpenGL, AR/VR (HoloLens), MPI, L ^A T _E X

EDUCATION

University of Bath | *EngD Digital Entertainment*

Oct 2015 – Dec 2020

Thesis: Influence of Perspective in Virtual Reality

University of Leeds | *BSc Hons (Ind) Computer Science*

Sep 2011 – Jul 2015

First Class Honours | Hillen Prize (best in School of Computing, 2015) | Dean's List (1st & 2nd year)

PROJECTS

- **LinkedIn Comment Generator:** Chrome/Firefox extension (Node.js, React) that drafts post comments with ChatGPT.
- **Standalone Wear Maps:** WearOS app providing turn-by-turn navigation directly on Android smartwatches (Java).
- **Alexa & Arduino:** Alexa skill for cinema showtimes (Node.js); Space Invaders and Tetris on an Arduino 8x8 LED shield (C).