

Santhosh Raju

SENIOR SOFTWARE ENGINEER

📍 Berlin, Germany

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Experience

Senior Backend Engineer

Berlin, Germany

HELLOFRESH SE

Jul 2022 — Present

- Owns the **\$4B/year** Direct Procurement pipeline from HelloTech to Oracle Cloud Fusion, performing *2-way and 3-way match of POs and Receipts* for payment processing.
- Rearchitected the existing **Kotlin** microservices on the Workday ↔ Oracle Cloud Fusion integration to accept new business rules for indirect procurement, surfacing **\$400M/year** of previously-invisible indirect spend to the business.
- Cut Finance Tech infrastructure costs **73%** through archiving cold data and retiring legacy services; architecting an LLM-backed support bot that auto-resolves **95%+** of incoming procurement support requests.
- Architected and led the **SKU Seasonality** initiative — ingredient availability across suppliers throughout the seasonal year — cutting missing-SKU customer complaints from **52% → 18%** and realising **€2.4M** in savings.
- Helped the squad align with the company's Kafka restructure OKR — spanning **50+ repositories across 10 tribes**, migrated with zero consumer downtime; consolidated the squad's owned topics from **180 → 20** (**€9K/month** infra saved).
- Built the nutrition + allergen aggregation pipeline for the Recipe Developer tools — surfaces legal-compliance data for the **950M+ meals/year** HelloFresh delivers; **25% YoY** reduction in food-safety errors.

Backend Engineer

Berlin, Germany

HELLOFRESH SE

May 2021 — Jun 2022

- Deprecated **REMPS** (Mendix-based Recipe / Menu / SKU planning) across five European markets via last-mile **Golang + PostgreSQL** integrations; **€480K/year per market** in licensing eliminated (**€2.4M/year** total).

Lead Backend Engineer

Quito, Ecuador

SEPIA OS (SEPIAOPENSOURCE S.A.)

Sep 2019 — Jul 2020

- Built **Erol** — *a salary-advance fintech* now serving **70+ companies / 8,000+ employees** with **\$4M+** in advances processed across **20K+** requests — in **Django + GraphQL** on **PostgreSQL**; JWT auth with OTP second-factor via Infobip SMS.
- Integrated with *traditional* banking APIs to generate and process bulk cash management files for automated fund disbursements to multiple institutions.
- Set up the CI/CD pipeline on **CircleCI** and helped maintain the AWS EC2 deployment via **Docker Swarm**, provisioned with **Ansible** and **Terraform**; maintained **100%** backend test coverage.

Senior Software Engineer

Quito, Ecuador

CENTRO DE AUTONOMÍA DIGITAL

Apr 2019 — Jul 2019

- Implemented in-band password change (XEP-0077) for **coyim** (FreeBSD ports · pkgsrc) — *an OTRv4-compliant XMPP messenger*.
- Researched and prototyped trusted Tor entry-guard selection for **Tails OS**.
- Ported and maintained the **OTRv4** library suite — *libotr-ng, pidgin-otrng, libgoldilocks* — for NetBSD (pkgsrc) and FreeBSD (ports), fixing critical bugs upstream was not yet ready to accept.

Founding Engineer / Tech Lead

Bengaluru / Chiba, Japan / Singapore

BACKYARD INNOVATIONS PTE. LTD. (BYI SYSTEMS)

Jan 2018 — Sep 2018

- Wrote **TLA+** formal verification proofs for a voucher trading system based on RFC 3506 consulted with **Masayuki Terada** (NTT, Chiba) — co-author of the optimistic fair exchange protocol that informed the system design.
- Implemented two-phase and three-phase commit consensus protocols for fail-safe voucher trading in **Erlang**.
- Set up and maintained company infrastructure on **FreeBSD** with **jails**.

Earlier — Software Engineer / Consultant: [The NetBSD Foundation](#) · [DRUP1 Consulting](#) · [KEENFX](#) · [Zyxware Technologies](#) · [Cognizant Technology Solutions](#) (Dun & Bradstreet Swiss, Factiva — Dow Jones)

Open Source & AI

Annot

Linux/NixOS port maintainer

HUMAN-IN-THE-LOOP ANNOTATION TOOL FOR AI WORKFLOWS (RUST + SVELTE + TAURI)

2026 — Present

- Contributed the Linux/NixOS port: Nix flake packaging for Linux + macOS, Wayland/WebKit2GTK rendering fixes, and borderless window with custom chrome and resize handles; packaged in the [numtide/llm-agents.nix](#) flake registry.

NetBSD

Core committer, pkgsrc developer

A FREE, FAST, SECURE, AND HIGHLY PORTABLE UNIX-LIKE OPEN SOURCE OPERATING SYSTEM

2016 — Present

- Author and maintainer of **15+** [pkgsrc packages](#) (wolfssl, btop, coyim, py-Glances, and more); ported htop, psutil, and gopsutil to NetBSD via [sysctl\(3\)/kvm\(3\)](#) APIs, replacing procfs and unlocking gotop and bottom.
- Co-mentored [GSoC 2020](#) for The NetBSD Foundation — “[Enhance Syzkaller support for NetBSD](#)” — raising NetBSD syscall coverage to **50.35%**.

FreeBSD

Ports committer

A POWERFUL, OPEN SOURCE OPERATING SYSTEM

2019 — Present

- Author and maintainer of **15+** [FreeBSD ports](#) including babashka, opengist, wolfssl, din, fasttracker2, markless, headscale, and pdfrip; **35** [Bugzilla bugs](#) handled as port maintainer (**83** total Bugzilla contributions).

SICvm

Virtual machine emulator in C

A SIC BASED VIRTUAL MACHINE

2005 — Present

- Developed a [virtual machine emulating the SIC architecture](#) (assembler, macro processor, VM). BSD-licensed.

Publications & Talks

The Future of Login

Conference talk

HOW DRUPAL CAN CHAMPION USER CHOICE, PRIVACY, AND SIMPLICITY

2025

- Presented at [DrupalCon Vienna 2025](#) with co-presenters [Unnikrishnan](#) and [Anish Anilkumar](#), in collaboration with [Hello Coop](#) (founder [Dick Hardt](#)).
- Contributed to the [hellocoop/php](#) SDK (Playwright e2e tests + CI) and the [hello_login](#) Drupal module, integrating Hello’s privacy-preserving identity system with Drupal’s auth layer.

Portable hotplugging

Paper

NETBSD’S UVM_HOTPLUG(9) API DEVELOPMENT

2017

- Replaced [uvm\(9\)](#)’s static `vm_physmem` array with a dynamic [rbtree\(3\)](#)-backed segment store, *enabling live memory hotplug API*; TDD-driven via [atf\(7\)](#) unit tests run in userspace before any kernel code; authored the [uvm_hotplug\(9\)](#) man page.
- Co-authored with [Cherry G. Mathew paper + talk](#) at AsiaBSDCon 2017, talk at EuroBSDCon 2017.

decant

Conference talk

IF YOU CAN’T DECANT, DISTILL IT

2016

- Built a [plugin-driven Android framework](#) routing SMS broadcasts through JavaScript filter functions — plugins hot-swap from external storage at runtime; embedded Mozilla Rhino engine; [demonstrated plugins](#) for Amazon orders, Domino’s delivery, and IRCTC rail reservations at [JSFoo 2016](#).

Technical Skills

Languages

Go, Kotlin, C, Python, Shell scripting

Tools & Frameworks

Kafka, Docker, PostgreSQL, MongoDB, Django, GraphQL, REST, Nix, Git

Systems

NetBSD, FreeBSD, Linux

Practices

TDD, microservices, build systems, monolith deprecation, agile methodologies

Education

Bachelor of Technology, Computer Science and Engineering

Kerala, India

COLLEGE OF ENGINEERING, TRIVANDRUM — UNIVERSITY OF KERALA

2002 — 2006

- Thesis: SICvm — A SIC based virtual machine ([sicvm.sourceforge.net](#)).
- Awarded with Distinction.