

# Henry Romp

Full-Stack & Backend Engineer · Python · React · PostgreSQL · AWS

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## PROFESSIONAL SUMMARY

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Full-stack and backend engineer with 11+ years of production experience across Python, React, PostgreSQL, and AWS. Deep background in API design, security-critical financial systems, and the full application lifecycle — architecture through deployment. Maintains a self-hosted production server running a suite of open-source projects. Contributor to Bitcoin Core ([github.com/bitcoin/bitcoin](https://github.com/bitcoin/bitcoin)) and the Bitcoin Core GUI. Comfortable owning complex backend systems end-to-end in fast-moving startup environments.

## TECHNICAL SKILLS

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| <b>Languages</b>              | Python (primary), JavaScript, C++, GDScript                            |
| <b>Frontend</b>               | React, Tailwind CSS, Node.js, HTML/CSS, Three.js, React Native / Expo  |
| <b>Backend / APIs</b>         | Flask, FastAPI, RESTful API design, SQLAlchemy, Psycopg, Uvicorn       |
| <b>Databases</b>              | PostgreSQL, MySQL, MongoDB, SQLite, Snowflake                          |
| <b>Cloud &amp; DevOps</b>     | AWS, Azure, Google Cloud, Docker, Kubernetes, Jenkins, CI/CD, systemd  |
| <b>Systems &amp; Security</b> | Linux admin, networking, cryptography, DevSecOps, systems automation   |
| <b>Other</b>                  | Git, Agile/Scrum, Magento, Twilio, ffmpeg, hardware diagnosis & repair |

## OPEN-SOURCE CONTRIBUTIONS

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**Bitcoin Core** | [github.com/bitcoin/bitcoin](https://github.com/bitcoin/bitcoin) & [github.com/bitcoin-core/gui](https://github.com/bitcoin-core/gui)

- Merged pull requests into **bitcoin/bitcoin** (main Bitcoin Core repo) and **bitcoin-core/gui** — one of the most security-scrutinized open-source codebases in existence, written in C++, where every PR undergoes multi-reviewer sign-off before merge.
- Confirmed merged PR: **#33247** — build system improvement (remove redundant CMAKE\_SKIP\_BUILD\_RPATH / SKIP\_BUILD\_RPATH settings).
- Additional merged contributions to the **Bitcoin Core GUI** repository and the **Armory Bitcoin wallet** (Python-based desktop wallet application).

## PROFESSIONAL EXPERIENCE

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### Software Developer

**SPONGE Direct Air Capture** | Granville, VT · 2019 – 2024

- Owned full hardware/software stack for a climate-tech startup building a novel direct air capture (DAC) system.
- Designed and built the second functional prototype, integrating hardware controls with custom Python backend software.
- Led software architecture decisions across embedded systems and backend services in a small, fast-moving team.

### Developer

**Cottonwood Vending — Bitcoin ATM / Kiosk** | New York, NY · 2019 – 2021

- Maintained Python backend powering a fleet of **300+ Bitcoin kiosks** across NYC — security, uptime, and reliability were paramount.
- Led the full **Python 2 → Python 3 migration** of a security-critical, high-transaction financial services codebase: dependency upgrades, regression testing, and production rollout.
- Built a comprehensive test suite from scratch (unit, integration, functional), achieving **80%+ code coverage** on a previously untested production system.
- Developed internal tooling and backend services to improve customer-support team efficiency.
- Stack: Python 3, Flask, SQLAlchemy, Psycopg, PostgreSQL, plus multiple external payment and compliance APIs.

### Technical Support Representative

[Cottonwood Vending](#) | New York, NY · 2017 – 2019

- Provided Level II technical support (phone, email, chat) for Bitcoin ATM hardware and software; deep product knowledge led to transition into developer role.

### Lead Developer

[Metropolitan Motorbikes](#) | Weehawken, NJ · 2013 – 2017

- Designed and built full e-commerce platform on Magento with custom Python backend modules.
- Engineered automated distributor integrations (Western Powersports, Parts Unlimited) to sync product catalogs including descriptions, pricing, and images.
- Designed and implemented RESTful APIs for backend services supporting the storefront.

## SELECTED OPEN-SOURCE PROJECTS ([hromp.com/portfolio](http://hromp.com/portfolio))

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### RompMusic — [rompmusic.com](http://rompmusic.com)

- GPL-3.0 self-hosted music streaming platform. Server: FastAPI, PostgreSQL, JWT auth, HTTP range requests, Mutagen metadata, beets integration, Docker. Client: React Native / Expo (Android, iOS, web), gapless playback, playlists. Demonstrates full-stack ownership from DB schema to mobile app.

### Dark Chess — [hromp.com/darkchess](http://hromp.com/darkchess)

- Real-time multiplayer chess with per-player fog-of-war. Node.js + Express + Socket.IO backend; chess.js for authoritative rules; custom server-side visibility masking. Fischer time controls, post-game replay, bot opponent.

### Doodlr — [hromp.com/doodlr](http://hromp.com/doodlr)

- Collaborative zoomable pixel-art canvas with 6-level hierarchical grid (729x729px). FastAPI + SQLAlchemy + SQLite backend; Expo / React Native Web frontend; Playwright E2E tests.

### Archive-to-Video — [hromp.com/archive-to-video](http://hromp.com/archive-to-video)

- Automates downloading archive.org audio collections, muxing with artwork via ffmpeg, and uploading to YouTube with OAuth. FastAPI backend; CLI mode for headless use.

### invoice-gen — [hromp.com/invoice](http://hromp.com/invoice)

- Flask app for invoice management: companies, clients, labor/itemized lines, logo upload, sales tax, HTML preview, Excel download. Draft autosave; Docker + Unicorn in production. Alembic DB migrations; Google Places autocomplete.

### Anthill — [hromp.com/anthill](http://hromp.com/anthill)

- Godot 4.2 grain-scale voxel ant colony simulator (*Lasius niger*). Pheromone/CHC fields, brood life cycle, task allocation, nest excavation. Research-oriented model with CSV instrumentation and validation export.

### GEB Interactive Companion — [hromp.com/geb](http://hromp.com/geb)

- Chapter-by-chapter interactive companion to Gödel, Escher, Bach (21 chapters). Vanilla JS, Web Audio API, SVG animation, Three.js. ELI5/ELI10/ELI20 reading levels plus per-chapter interactive modules.

### Too Hot ([its2hot.org](http://its2hot.org)) — [its2hot.org](http://its2hot.org)

- Climate awareness platform: compares today's forecast to 30-year historical norms and alerts subscribers when anomalies exceed threshold. Flask + Cloud Run backend; React Native / Expo + Firebase push mobile app; Cloud Scheduler.

### Listen — [hromp.com/listen](http://hromp.com/listen)

- Android app (C/Java) for continuous background audio recording with configurable rolling buffer, gapless segments, WorkManager rotation, and Room DB metadata.

## EDUCATION & CONTINUOUS LEARNING

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### GED · Home-schooled · Middlebury, VT · 2007

Self-directed learner since age 13, when an introduction to *Gödel, Escher, Bach* sparked a lasting interest in computer science and systems thinking. Active on Pluralsight (intensive developer training), Codecademy, and Saylor University. Studies span evolutionary biology, cryptography, economics, linguistics, security, and music — breadth that directly informs technical problem-solving and system design.