

Naimat Ullah Khan

Software Engineer | Python, FastAPI, Django, React, Odoo | Automation, RPA & AI Agents

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PROFESSIONAL SUMMARY

Software Engineer with 3+ years of professional experience building Python backend services, full stack web platforms, and AI-assisted automation agents. Delivered production healthcare RPA agents and a shared integration library for a US healthcare AI company, automating prior authorization, payment posting, and claims workflows across 50+ insurance payer portals and desktop EHR systems. Also builds multi-tenant FastAPI microservices with React front ends and Odoo 18 point-of-sale platforms, with hands-on LLM and OCR integration (OpenAI GPT-4o, AWS Textract), Docker, AWS, and CI/CD.

TECHNICAL SKILLS

- **Programming Languages:** Python, JavaScript, TypeScript, SQL, HTML5, CSS3
- **Backend & Frameworks:** FastAPI, Django, Django REST Framework, Node.js, Express.js, Odoo 18 (Custom Modules, ORM, OWL, QWeb)
- **Frontend & Mobile:** React, Redux Toolkit, Tailwind CSS, Material UI, Micro-Frontends (single-spa), React Native
- **Automation & RPA:** Robocorp, RPA Framework, Selenium, Playwright, PyWinAuto, UIAutomation, PyAutoGUI, BeautifulSoup4, Web Scraping, Windows Desktop Automation, MFA/OTP and CAPTCHA Handling
- **AI & Document Processing:** AI Agents, OpenAI API (GPT-4o), LLM Structured Output Parsing, AWS Textract (OCR), OpenCV, PyPDF, AI-Assisted Development (Cursor)
- **APIs & Architecture:** REST API Design, GraphQL, Microservices, Multi-Tenancy, Event-Driven Architecture (Redis Pub/Sub), Asynchronous Programming, Celery, EDI (835, Stedi)
- **Databases & Data:** PostgreSQL, MongoDB, MySQL, Redis, SQLAlchemy, SQLModel, Alembic, Pydantic, Pandas, OpenPyXL
- **Security & Authentication:** JWT, TOTP/2FA, Role-Based Access Control, PGP Encryption, SFTP, Bitwarden, Keeper, PII Masking
- **Cloud & DevOps:** AWS (S3, EC2, ECR, Lambda, Textract, CodeArtifact), Docker, Docker Compose, Nginx, GitLab CI/CD, Bitbucket Pipelines
- **Testing, Quality & Observability:** Pytest, Mypy, Ruff, pre-commit, OpenTelemetry, Structlog, BugSnag, Prometheus, Grafana
- **Integrations:** Microsoft 365 (Outlook, SharePoint), Google Sheets/Drive/Gmail APIs, Slack SDK, Smartsheet, Stripe
- **Tools & Practices:** Git, GitHub, GitLab, Bitbucket, Jira, Postman, Notion, uv, Agile/Scrum

PROFESSIONAL EXPERIENCE

ENIGMATIX PVT LTD, BAHAWALPUR, PAKISTAN

Backend Developer & Automation Engineer

March 2024 – Present

- Built and maintained 4 production healthcare RPA agents and a shared payer-portal library for client Thoughtful.ai, automating revenue cycle workflows across 50+ insurance payer portals, 9 banking portals, and desktop EHR/PM systems (NextGen, Acuity Logic).
- Integrated AI into automation pipelines, combining AWS Textract OCR with OpenAI GPT-4o structured-output parsing to extract data from authorization letters when OCR alone was insufficient.
- Engineered parallel, fault-tolerant bot execution using Robocorp work items, batched subprocesses, and Redis-based distributed locking for shared portal credentials.
- Developed full stack features for a multi-tenant SaaS office management platform using FastAPI microservices, PostgreSQL, Redis, Celery, and React/TypeScript micro-frontends.
- Built Odoo 18 custom modules and 40+ REST APIs powering React and TypeScript point-of-sale applications for retail, restaurant, and pharmacy clients.
- Secured services with JWT, TOTP/2FA, and role-based access control, and integrated third-party systems including GraphQL and REST payer APIs, EDI (835), SFTP, Microsoft 365, Google APIs, Slack, and AWS S3.
- Maintained code quality with Pytest, Mypy, Ruff, and pre-commit, shipping through Bitbucket Pipelines and GitLab CI/CD with Docker-based deployments.

PROJECTS

AI AGENTS & HEALTHCARE AUTOMATION — CLIENT: THOUGHTFUL.AI

AVP1 Prior Authorization Agents (AVP1A & AVP1B) | *Python, Robocorp, Selenium, PyWinAuto, GraphQL, GPT-4o, AWS Textract*

- Automated prior authorization and patient cost estimation for surgical appointments: pulls daily appointments from NextGen, verifies eligibility on Clearwave, and submits payer-specific requests (Anthem, Molina, Wellcare, and more) via the Samacare GraphQL API.
- Processed appointments in parallel batches of 20; a companion agent routes excluded cases through UHC, Optum, and Wellmed portals with automated Outlook OTP retrieval and writes results back to NextGen.

AVP3 Payment Posting Agent | *Python, Robocorp, Selenium, PyAutoGUI, PyWinAuto, PyPDF, Smartsheet, Docker*

- Automated end-to-end payment posting for an eye care practice network: retrieves deposits and ACH reports from 9 banking portals, parses 835 EDI files and EOBs from Waystar, and matches payments to patient encounters.
- Posts payments into NextGen using Immediate, Quick, or Full Post strategies selected by batch-balancing validation, handling provider-level adjustments, secondary insurance, and unposted encounter reconciliation.

MED1-CAM Vision Claims Management Agent | *Python, Robocorp, Playwright, Redis (Lua), Paramiko (SFTP), PGPy, Microsoft 365*

- Automated daily vision claims submission across 5 payer portals (VSP API, Versant, EyeMed, Avesis, iCare) from PGP-encrypted SFTP queues, with a 30+ rule claim scrubbing engine and automated rework of Experian rejections.
- Built a Redis-backed distributed credential manager using atomic Lua scripts, letting parallel work items grouped by billing EIN safely share portal logins.

T-Payer-Portal Shared Automation Library | *Python, Playwright, Pydantic, Stedi (EDI), OpenTelemetry, uv, Mypy, Pytest*

- Developed packages in a Python monorepo covering 50+ dental, vision, and medical payer portals behind one typed interface (Login, Eligibility, EOB/Claims, Prior Authorization), so bots switch payers without code changes.
- Supported pluggable authentication (Bitwarden/Keeper vaults, TOTP MFA, Gmail/Outlook OTP, CAPTCHA solving), OpenTelemetry tracing, and PII-masked logging, with CI enforcing type checks and 90%+ unit test coverage.

FULL STACK & ODOO DEVELOPMENT

OMS – Office Management System | *Full Stack Developer* | *FastAPI, DRF, PostgreSQL, Redis, Celery, React, TypeScript, AWS*

- Contributed to a multi-tenant SaaS platform for HR, attendance, payroll, accounting, and projects, migrated from a Django REST Framework monolith to 6 FastAPI microservices with per-tenant PostgreSQL schemas.
- Services share JWT and tenant verification through a private Python package, communicate via Redis pub/sub, and serve React micro-frontends (single-spa); deployed with Docker and Nginx to AWS through GitLab CI/CD.

Enigmatix POS Till System & Pharmacy POS | *Full Stack Odoo Developer* | *Python, Odoo 18, PostgreSQL, OWL, React 19, TypeScript, Redux*

- Extended Odoo 18 POS, Inventory, Accounting, Sales, Loyalty, and HR apps through upgrade-safe custom modules exposing 40+ REST APIs to a React front end with 3 role-based interfaces: cashier till, Kitchen Display System, and Back Office dashboard.
- Delivered multi-branch operations, PIN token login, the full order lifecycle (payments, refunds, voids, discounts), and scheduled End-of-Day cash reconciliation; the pharmacy edition adds batch/lot and expiry tracking with stock alerts.

OONO – Brand & Collection Management Platform | *Full Stack Developer* | *Node.js, Express.js, MongoDB, AWS S3, JWT*

- Built REST APIs for users, brands, collections, and stories with JWT access control, and synchronized carousel JSON stored on AWS S3 automatically as collections and stories changed.

EDUCATION

Bachelor of Science in Information Technology

February 2022 – February 2026

The Islamia University of Bahawalpur, Bahawalpur, Pakistan | CGPA: 3.2 / 4.0

CERTIFICATIONS & AWARDS

- Robocorp Certified Python Automation Developer, Levels 1, 2, and 3 (Sema4.ai)
- Certificate of Appreciation & Achievement, Backend Developer & Automation Engineer, Enigmatix Pvt Ltd