

LEAD • SENIOR SOFTWARE ENGINEER

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SUMMARY

Software Engineer with 20+ years of experience, building software from the ground-up mainly with Python (13 years), Objective-C (5 years), Swift (2 years), PHP (7 years), and C++ (3 years).

Big fan of writing clean and minimal code using Python, Django, Django REST Framework and PostgreSQL to build solid RESTful APIs collaboratively within teams.

Staying up to date and very keen to learn about new technologies.

Big fan of web3 and Blockchain - Deployed [ERC-20 tokens/smart contracts](#) in Sepolia testnet and built a [mainnet Blockchain Explorer](#) using FastAPI.

Active when it comes to professional development, currently exploring Rust, Vyper, while actively contributing to my open-source project, [Exchange Radar](#) using Starlette.

PROFESSIONAL EXPERIENCE

Exchange Radar

Idealised and building a Live trading information platform with notifications.

[Lead and Sr. Software Engineer](#)

Jan 2024 - Present

Technologies: Python, Starlette, Redis, Redis Stack, redis-om, asyncio, websockets, Uvicorn, Jinja, Javascript, JQuery, CSS, RabbitMQ, OpenAPI 3, REST, Event-driven, Microservices, linux, nginx, Docker, docker compose, Github, unittest, pytest, Unit/Integration/Functional/API Testing

Links: exchangeradar.tech, pypi.org/project/exchange-radar, github.com/pantunes/exchange-radar

- Created the open-source project in Github using REST microservices and event-driven architectures
- Created technical documentation and set up automated Github Actions with linters, code quality checks, running test cases and checking code coverage as part of CI/CD
- Create periodic new features and bug fixing
- Create releases with versioning and publish them to exchangeradar.tech and pypi.org
- Focus on minimising resource usage and enhancing performance, given that all services are operating on a Raspberry Pi 4

Bits of Stock

Amsterdam/New York

Created and maintained a platform that enables financial institutions to offer customer rewards in the form of fractional shares of popular stocks.

[Lead and Sr. Software Engineer](#)

Jun 2022 - Dec 2023

Technologies: Python, Django, Django REST Framework (DRF), Postgres, Gunicorn, JWT, OAuth 2, SQL,

Wundergraph, OpenAPI 3, Redoc, RabbitMQ, REST, Event-driven, Microservices, Docker, docker compose, AWS, Github, unittest, pytest, Unit/Integration/Functional/API Testing

- Created 3 REST and event-driven microservices, including an Authentication/Authorization service, with around 750 unit, integration and API test cases, having an average of 98% of code coverage
- Created an Authentication/Authorization Python Django Package to be installed by client services
- Created technical documentation and set up automated Github Actions with linters, code quality checks, running test cases and checking code coverage as part of CI/CD
- Forked, customised and extended Cookiecutter Django for the internal needs
- Created new features, bug fixing and hotfixes
- Extended and maintained 6 other web services
- Involved in the services design and architecture including creating service diagrams and documentation
- Successfully resolved significant performance issues by conducting investigations and implementing improvements such as database indexing, fine-tuning Gunicorn settings, and rewriting intensive endpoints

Sentinels

Amsterdam

Built new features and maintained a platform used by fintech companies that monitors transactions in order to crack down money laundering (AML) and other illegal activities.

[Sr. Backend Developer](#)

[Aug 2021 - May 2022](#)

Technologies: Python, Django, Django REST Framework (DRF), Postgres, JWT, Keycloak, SQL, OpenAPI 3, Apache Airflow, REST, Event-driven, Microservices, Docker, docker compose, Kubernetes, Jenkins, AWS, Gitlab, Github, unittest, pytest, Unit/Integration/Functional/API Testing

- Implemented the Authentication/Authorization Django middleware service
- Refactored big part of the backend to use best Django and DRF practises
- Created new features, bug fixing and hotfixes in the backend service
- Created various scheduled (nested) Apache Airflow DAGs
- Addressed performance bottlenecks by analysing Postgres queries, optimising them with appropriate indexes to speed up reads, and also modified endpoints to enhance performance
- Increased code coverage and test cases, while instructing co-workers about the benefits of it

Wundermart

Amsterdam

Built new features and maintained a platform that manages the grab, pay and go self-managed shops.

[Sr. Backend Developer](#)

[Jan 2021 - Jul 2021](#)

Technologies: Python, Django, Django REST Framework (DRF), Postgres, SQL, OpenAPI 3, Redis, Dramatiq, REST, Event-driven, Microservices, Docker, docker compose, Kubernetes, GCP, Gitlab, unittest, pytest, Unit/Integration/Functional/API Testing

- Created new features, bug fixing and hotfixes in the main backend service
- Built a new service with configurable webhooks to receive real-time purchase data

- Revamped and enhanced the task to calculate the current stock status of each terminal and initiate supplier purchases if stock levels reach the threshold
- Created CLI tools to perform other daily periodic tasks
- Restructured a section of the backend to stick to the best practices of Django and DRF, along with creating comprehensive documentation for the changes made
- Built documentation about Git best approaches when working collaboratively within a team

HelloMaaS**Amsterdam**

Platform that matches the best fit between freelancers and projects.

Full Stack Developer**Jan 2019 - Dec 2020**

Technologies: Python, Django, Django REST Framework (DRF), React, Javascript, Postgres, SQL, OpenAPI 3, Redis, Redis Queue, Stripe, Algolia, REST, Event-driven, Microservices, Docker, docker compose, nginx, AWS, Github, unittest, django.test, Unit/Integration/Functional/API Testing

- Implemented new features and bug fixing in the backend service
- Added payments capability through Stripe
- Added full-text search using Algolia, to not compromise performance with large datasets
- Implemented as well new features in the Frontend
- Responsible for the release process (development/staging/production)

Irdeto**Hoofddorp**

Online and Offline platforms that manage cryptographic assets used by big customers such Comcast.

Sr. Software Engineer**Jan 2017 - Jul 2019**

Technologies: Python, Flask, React, Javascript, PKI, TLS/SSL, X.509, Cryptography, Auth0, Postgres, Celery, SQLAlchemy, Alembic, SQL, REST, Event-driven, Microservices, Jenkins, Docker, docker compose, AWS, Gitlab, unittest, pytest, Unit/Integration/Functional/API Testing

- Built features and maintained the online and offline backends
- Created a package used internally to create TLS Certificates and CRLs given a configuration
- Created a package to easily expose an API to generate paginated reports in PDF format
- Maintained other custom relevant Python packages
- Refactored CLI tools to be more standard and increased its code coverage and number of test cases

Dutch Applications**Rijswijk**

Built multiple iOS native apps for iPhone and iPad and respective Restful APIs and deployment in the cloud.

Sr. Software Engineer**Aug 2012 - Dec 2016**

Technologies: Objective-C, Swift, Python, Celery, PHP, Tornado, Flask, Javascript, MySQL, SQL, MongoDB, Celery, Redis, REST, Event-driven, Microservices, linux, apache HTTP, Linode, Bitbucket, Mercurial, unittest, pytest, Unit/Integration/Functional/API Testing

- Built Daybook, InfectieVrij, PalliatieApp iPad apps
- Built Pluhz, GoodPoint! iPhone apps
- Built PluhZ and PalliatieApp backends that were deployed in the Linode cloud

- For a duration of two weeks, Deloitte conducted an audit on the PluhZ backend and iOS app as part of their “Hacking as a Service” program. The main objective was to identify and address any security vulnerabilities. The result of the audit indicated that there were no security issues present, and the platform performed well

Competa

Rijswijk

Worked in various customers as a Technical Consultant.

Technical Consultant

Jan 2007 - Jul 2012

Technologies: PHP, Symphony, CodeIgniter, MVC, Python, web scraping, Objective-C, MySQL, Ms SQL Server, Memcached, Javascript, REST, FFMpeg, Imagemagick, Apache Solr, Elasticsearch, CASTORFS, Perforce, Bitbucket, Apache subversion, unittest, pytest, Unit/Integration/Functional/API Testing

- Worked at Dutch Applications as an iOS developer to build the Borstkanker iPhone app
- Worked at Sanoma Media as a Python developer to build a Video Management System. Expanded the capabilities of the heavily-trafficked backend API utilised by platforms such as nu.nl, which received an average of 10 million views daily, including 3 million API hits. Additionally, engineered a transcoding engine leveraging FFMpeg to convert all videos to the H264 codec and utilised ImageMagick to process images, benefiting all websites owned by Sanoma Media
- Worked at TomTom as a PHP developer to build new features in their Customer Support software
- Worked at UPC as a PHP developer to build and maintain 8 of their main websites

ArtSOFT

Lisbon PT

ArtSOFT software ranked as the second largest ERP system in Portugal based on its customer base.

C++ developer

Sep 2004 - Dec 2006

Technologies: (Ms Visual) C++, Btrieve, Microsoft Foundation Class Library, Integration/Functional Testing

- Implemented new features and bug fixing and built the software’s Electronic Invoice
- Responsibility for implementing plugins, having developed approximately 20 software plugins designed for specific customer functionality

For a complete overview of the remaining professional experiences, see my [LinkedIn profile](#).

SIDE PROJECTS / OPEN SOURCE CONTRIBUTIONS / ENTREPRENEURSHIP

Created and deployed ERC-20 Tokens/smart contracts in Ethereum protocol

Aug 2023

Technologies: Ethereum, ETH, Vyper, MyEtherWallet, Python, web3

Link: sepolia.etherscan.io/token/0x8fb1b33bc2e34c815fab8b82a4fc0622d7c8b0d0

Created a real-time LTO Network Explorer, including Telegram Bot

Jan 2021

Technologies: Python, FastAPI, websockets, REST, Event-driven, Microservices, Docker, docker compose, linux, nginx, Github

Links: lto.pauloantunes.com, lto.tools/live-dashboard

Created the open-source platform XTCryptoSignals, including Telegram Bot

Nov 2018

Technologies: Python, Flask, Socket.IO, multiprocessing, REST, Redis, MongoDB, Celery, Javascript, CSS, Web Push Notifications, Docker, docker compose, linux, nginx, Github

Links: xtcryptosignals.com, pypi.org/project/XTCryptoSignals, github.com/pantunes/xtcryptosignals

Created a home network cluster of 5 mini-computers which hosts the side-projects

Sep 2016

Technologies: linux, ubuntu, raspbian, network, dhcp, ufw, port forwarding, nginx, ssh, security, TLS/SSL

Co-founded Party with a Local and developed its iPhone app

Oct 2012

Technologies: Objective-C, App Store, Github

Links: en.wikipedia.org/wiki/Party_with_a_Local, businessinsider.com/10-travel-apps-that-...

Developed a native iOS iPhone/iPad multi-player game Tic-Tac-Toe Notepad with In-App P.

May 2011

Technologies: Objective-C, Network/Sockets/Multiplayer, In-App Purchase, App Store, Github

Link: apps.apple.com/nl/app/tic-tac-toe-notepad/id438091761

Contributed to the documentation of PHP language v4.4.x

Jan 2008

EDUCATION

ZEND

- Zend Certified Engineer (PHP)

2007

UNIVERSITY OF ALGARVE | Faro, Portugal

- Licentiate in Computer Science

2003

SKILLS

- Python, Objective-C, Swift, PHP, C++, Rust
- Python Frameworks (Django, Django Rest Framework, FastAPI, Starlette, Flask)
- Rust Frameworks (Axum, Rocket, Hyper, Serde, Tokio)
- Databases (Postgres, MongoDB, MySQL/MariaDB, SQLite)
- Full-text search engines (Algolia, Elasticsearch, Apache Solr)
- Background Task Processing and Brokers (Celery, RabbitMQ, Redis, Redis Queue, Dramatiq)
- Multiprocessing, Threading, asyncio, Socket.IO, websockets, gRPC
- unittest, pytest, Unit / Integration / Functional / API Testing
- Git, Mercurial, Bitbucket, Github, Gitlab, CI/CD, Jenkins, Docker, docker compose, kubernetes
- AWS (CloudWatch, CodePipeline, ECR, ECS, S3, RDS, EC2, SNS, SQS, Cognito, CodeDeploy, CodeBuild, Lambda)