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Software Engineer, Python

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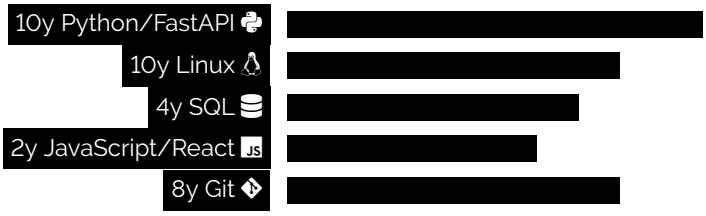
WHO AM I?

I am a software engineer with 9 years of experience. Most of my experience is in backend apps using Python-related technologies. I worked in small and big-sized companies designing, developing, and maintaining scalable apps. I enjoy working with professional people where I can support and be supported depending our duties.

MAIN TECHS



EXPERIENCE

8/2023 – Current
1 yr. 5 mos. – remote

Software engineer – Full stack — **The New England Center for Children**

We design, create, and maintain education-tech app products. I have been working using Python, FastAPI, Quart, JavaScript for micro-services with MySQL to manage data.

• We have been migrating a monolith Java app to Python/FastAPI/Quart micro-services.

Techs: `Python/FastAPI/Quart` / `Pydantic` / `Pytest` / `mypy` / `SQL` / `JavaScript` / `Java` / `Jinja` / `Linux` / `Docker`

4/2023 – 7/2024
4 months – remote

Software engineer – part time — **Martian**

The main Martian feature is an LLM router: a user can send a prompt, and the Martian's model will decide on the best LLM for it.

• I have been contributing to Matrian's adapters (github.com/withmartian/adapters). It interfaces with a large set of open and proprietary Large Language Models (LLMs).

• I have also been developing a Sales Dashboard (front and backend) to give the Sales Team insights into our customers. This dashboard uses HTMX/Jinja for frontend and Litestar, Pydantic, MongoDB for the backend.

Techs: `Python/FastAPI/Litestar` / `Pydantic` / `Pytest` / `mypy` / `MongoDB` / `Jinja` / `Linux` / `Docker`

9/2022 – 7/2023
11 months – remote

Backend software engineer — **Shipwell**

We designed, created, and maintained backend services integrating load boards across North America.

Techs: `Python/FastAPI/Django` / `Pydantic` / `Pytest` / `SQLAlchemy` / `mypy` / `PostgreSQL` / `RabbitMQ` / `Linux` / `Docker` / `AWS` / `Postman` / `Rollbar` / `Datadog` / `Redis` / `Terraform`

8/2019 – 7/2022
2 yr. 11 mos. – remote

Software engineer — **Pinterest**

• **Trust and Safety Tools as Full-stack**: we provided tools to keep Pinterest trusty and safe. We developed and maintained web tools to assist agents in fast-track trust and safety issues and fixing them.

• **Ads interface and Growth as Back-end**: we provided systems to improve the observability of Ads systems by creating time-series dashboards for monitoring, alerting, and reporting.

We created screening processes for new employees and helped some colleagues with mentorships.

I interviewed about 340 candidates to be Python-focused software engineers.

Techs: `Python/Flask` / `JavaScript/React` / `SQLAlchemy` / `Linux` / `SQL` / `Pandas` / `Jupyter` / `Kibana`

4/2019 – 10/2019
7 months

Assistant Professor — **Maringá State University**

I ministered the following subjects:

• Algorithms and Data Structures • Relational Database • Multi and Hypermedia Systems • Algorithm Analysis and Graph Theory • Object-Oriented Programming.

Techs: `Python` / `SQL` / `Java` / `C`

10/2015 – 9/2019
4 years

Tech lead & Data Scientist — **Seebot**

• **Tech Lead**: We assembled an entire smart traffic light (STL) that can sense streets using cameras and act (open/close) autonomously. My main achievements were: when I led software engineers, we created a STL hardware and software controllers, traffic simulators for traffic optimization, and web dashboards.

• **Data Scientist**: We created a traffic simulator using SUMO (Simulation of Urban MObility). Our main algorithm on this simulator had 200% to 400% waiting time optimization on light to medium vehicle traffic. We also deployed our smart traffic light in 4 real crossing roads. To achieve this, we had to: do researches in traffic optimization area by using smart traffic lights, design and develop optimization algorithms for smart traffic lights, design and create embedded distributed real-time systems for the STL with a microservice architecture.

Techs: `Python` / `Gevent` / `SUMO` / `R` / `Linux` / `Systemd`

6/2018 – 3/2019
10 months

Data Scientist — **EarlySec**

We created security apps to advise our clients on assurance issues. We used Natural Language Processing (NLP) techniques to filter, train, classify, and cluster social media messages. This way, we could alert our clients if something unusual was happening.

Techs: `Python` / `Sckit-learn` / `Java` / `Elasticsearch` / `Apache Kafka` /`Spark` / `Linux`

EDUCATION

2014 – 2016

Master's Degree in Computer Science — **Maringá State University**

Thesis: Algorithms based on Variable Neighborhood Search (VNS) metaheuristic applied in the Bus Driver Schedule Problem.

2010 – 2013

Bachelor's Degree in Computer Science — **Maringá State University**

Thesis: A genetic algorithm for the Feedback Arc Set Problem.

MY PROJECTS

website

aki.allainclair.com (pt_BR)

I have created and maintained this "Event" website for the city of Maringá, PR, Brazil. It updates every 15 minutes with events in the city like music shows and others.

Techs: `Python` / `FastHTML` / `HTMX` / `Oracle cloud` / `Pico CSS` / `Linux` / `Docker`

website

rs1.allainclair.com (pt_BR)

I have created and maintained this real estate website for the city of Maringá, PR, Brazil. It loads around 20K records to plot and cluster points in the map according to user inputs every day. It is in pt_BR.

Techs: `Python` / `Litestar` / `HTMX` / `Oracle cloud` / `tailwindcss` / `Linux` / `Docker`

website

econ.allainclair.com (pt_BR)

I have created and maintained this website for Brazil's economic indexes. At the moment, the website shows only the "inflation" index for the current and past month, 3, 6, and 12 months accumulated rolling, and year to date. It is in pt_BR.

Techs: `Python` / `Litestar` / `HTMX` / `Oracle cloud` / `tailwindcss` / `Linux` / `Docker`

SCIENTIFC PAPERS

5/2017

Journal of Universal Computer Science

Solving a Large Real-world Bus Driver Scheduling Problem with a Multi-assignment based Heuristic Algorithm.

9/2016

(PTBR) XLVIII SBPO - Simpósio Brasileiro de Pesquisa Operacional

Algoritmos baseados na meta-heurística VNS aplicados ao Problema de Escalonamento de Motoristas de Ônibus.

1/2015

17th International Conference on Enterprise Information Systems (ICEIS-2015)

Combining Heuristic and Utility Function for Fair Train Crew Rostering.

LANGUAGES

English - Advanced
Portuguese - Fluent

HOBBIES

Sports, Billiards, Beer/Brewing, Movies, Physics.

NON PROFIT

I help people to learn and develop in computer science/software engineering.