

# Cosmin Poieana

## Engineer at core | Entrepreneur at heart

I truly believe that human beings are not meant to sink in tedious repetitive tasks. We're more creative than that.

This way we can leverage the power of AI when it comes to automation, by filling only the system logical gaps with human technical expertise, leaving the LLM do the rest. I'm sure that we're ready to shape the future by riding this wave, while employing an ethical upright culture.

So here I am, a Sr. Software Engineer seasoned with business and leadership skills. Passionate about startups, photography videography, art, reading and traveling the world, as an effective digital nomad focusing on impact and results.

## I. Experience

### 1. *Software Engineering Lead @ Sema4AI*, USA: Nov 2023 - Jul 2024 (9 months)

As a cohesive team of 5 Python engineers, we established the foundation of running AI Actions through OpenGPT-powered Agents. At the core of the framework, there's a server built over FastAPI capable of discovering packages exposing actions to be run locally in isolation. The "meat" of these actions is pure Python logic which operates over both internal and external resources.

- Bridged the product with the engineering side by managing a Linear project dealing with the creation of pre-made actions, wrapping services like Google, Slack, HubSpot and operating on local documents.
- Written technical documents helping with issue scoping and designed the OAuth2 flow affecting our products.
- Improved the DX of library work and its migration from RPA to native Python automation.
- People management: hiring interview code challenge design, 360 reviews, 1on1 proactive feedback, new hires onboarding, team autonomy & trust empowerment.
- Held talks about our development tools and Python automation to wider external audiences.

Managed to interview and hire some of the best fits at that time, while assembling a subteam focusing around Python development and CI/CD best practices for package releasing. Experienced growth on the management side by diminishing friction, nurture autonomy and keeping the roadmap in sync with the volatile nature of the product. This was a full rebrand of myself aligning with the acquisition of Robocorp by Sema4AI.

### 2. *Senior Software Engineer @ Robocorp*, Finland: Sep 2021 - Oct 2023 (2 years 2 months)

Giving everyone the opportunity to harness the power of open-source automation through a set of developer tools and Python libraries making it easy to grasp.

- Developed a set of RPA libraries written in Python, used under Robot Framework automation scripts involving: intelligent document processing, API wrappers, browser (Selenium), desktop (OCR), Windows, email with OAuth2 and PDF automation.
- PyPI package development and dependency management with cloud-based integration testing coverage.
- Contributed to a public gallery of use-case driven examples employing our tools.

- Fully committed in customer support threads and calls in order to understand and fix what burns the most, thus ensuring our company's growth and success.

Suffered a powerful seniority upgrade & consolidation by improving my RPA skills, alongside communication, prioritization, impact and empathy. Focusing on the essential with an attention to detail is key. Blended into the company culture and transformed its core values into virtues.

### 3. *Senior Software Engineer @ Gorgias*, USA: Jan 2021 - May 2021 (5 months)

At Gorgias everything is going fast and based on data. You need to stay agile while getting quickly to "no" when facing decisions that will impact the project long-term. Finding your focus and holding the line on multiple fronts is an art, one that wins you a partner or a client over the competition. And the main vision here is to become no. 1 on Shopify while helping as many people as possible through our e-commerce helpdesk.

- Growing and leading the Developer Experience team while helping our partners and external developers integrate better with Gorgias.
- Laying the tech foundation of an App Store with OAuth2 support where developers can publish and monetize their own apps inside of Gorgias.
- Improving our REST API and docs with a startup mindset and leadership good practices.

Thought I met the culture, processes and transparency I was looking for, but everyone's no. 1 focus was just the customer impact & support.

### 4. *Tech Lead @ Comfy*, USA: July 2019 - December 2020 (1 year 6 months)

As a leader in smart buildings, this new IoTs unicorn is giving me the opportunity to lead by example in a startup vibe environment, by taking technical and team crucial decisions. My mission here is to help Comfy innovate the way we move and feel at work. Some of our partners automated through us square kilometers of campuses.

- Establishing the architecture and code layout for a new set of micro-services dealing with numerous sensor-based events using Go and Python with Django.
- Getting familiar with Google's gRPC protocol buffers, under a grpc-gateway reverse proxy transcoder and service implementors in Python 3.
- Working on a Mapbox compliant API with its business logic implemented at database level using PostGIS.
- Ensuring everyone in the team knows how and what to do through proactive communication and effective mutual help.
- Dynamically juggling with priorities in order to meet client's SLA and deliverables deadlines.

Seen from start to finish how it feels to be acquired by a big corporation and merged with multi-timezone/culture teams.

### 5. *Back End Developer @ ArcanaBio*, Iceland: April 2018 - April 2019 (1 year 1 month)

Under this new startup emerged from TeqHire, I'm walking along the adventurous road of risks and uncertainty of accurately detecting organisms in samples. Together with its CEO, we've glued and kept aligned a family of team players, from whom I learned to take responsibilities, communicate better and face the client with success.

- DNA sequencing and PCR automation involving Blast and Primer around NCBI ecosystem.
- Async programming in Python 3 with aio\* libraries under exotic ASGI frameworks.

Pivoted from full-time dev to part-time lead, managing brainstorming, tasks, planning and documentation.

### 6. *Software Engineer @ Fashwell*, Switzerland: August 2018 - November 2018 (4 months)

Helping the ML team on leveraging our main vision: image detection of fashion apparel and furniture in milliseconds. On a daily basis I'm planning, developing and deploying new features

and components for the API services and current infrastructure. Mainly improving Python web apps with Kubernetes running in Google Cloud.

- Adding customizable rate limit support for all exposed endpoints, based on Redis and good intentions.
- Creating a bot for analyzing user statistics in order to generate and display engaging reports.
- Global code refactoring, Python 2 to 3, various fixes and overall quality assurance.

Increased service reliability by properly controlling clients' API requests, while fixing bugs & coupling on the authentication side. Improved my knowledge and skills together with a wonderful team.

7. *Python DevOps @ **TeqHire**, Iceland: October 2016 - April 2018 (1 year 7 months)*

Here I am the one-man army. While had the chance to also work in small teams, I developed a strong professional relationship with the Co-Founders, thing which led me to a whole new set of responsibilities and trust, under which I propose, set and manage tasks on my own, then research, develop, test, deploy, maintain and document features that accomplish business' needs.

- Developing a fully fledged web application written in Flask with App Engine, capable of categorizing people's public professional related information with the goal of matching them to accurate and suitable job positions.
- Creating an Elastic Search ML component for the service above with data post-processing and analytics intentions.
- Aggregating and centralizing end-user financial data from different enrolled banks into one desired central service.
- Augmenting video streaming with live data extracted automatically from the most popular poker platform in the world, using smart OCR and text prediction algorithms.

Built connections with some of the brightest minds around the globe and got in touch with role model entrepreneurs and CEOs.

8. *Full Stack Developer @ **47FARMS**, USA: March 2016 - October 2016 (8 months)*

Alongside the most altruistic entrepreneur in Princeton, I'm on a mission to enable access to local and healthier food for all communities by harnessing technology innovation to build local and regional food systems. We revolutionize the food and groceries buying system by successfully implementing restaurant, school and hospital programs through which people can buy and eat healthy food from their local producers.

- Developing and maintaining the 47farms.com website using the webapp2 framework under Google Cloud PaaS.
- Allowing parents to order and schedule school lunches for their children across the whole week.
- Supporting individual small clients to unite and become wholesale buyers through our platform.
- Implementing recurring orders, custom pricing techniques and various payment options.

Qualified for a pitch regarding the mission above at the Wolves Summit conference and obtained consistent grants from the state, while learning some key aspects about business in general and why diplomacy and discipline always win.

9. *Operational Researcher @ **Reckon Digital**, UK: January 2016 - February 2016 (2 months)*

I'm taking General Electric to the next level by working on a back-end service used to automatically schedule wind power plants tests. Moving and testing massive engines from one workbench to another is an expensive job, therefore we cut the costs by digitally scheduling the entire process.

- Developing, testing and deploying the test planner service on Linux machines while creating a strong bond with the team.

Made my first steps into Django web framework and strengthened my DevOps skills with the Fabric deployment tool.

#### 10 *Cloud Engineer @ Cloudbase Solutions*, Romania: October 2014 - December 2015 (1 year 3 months)

- We're joining forces with big clients like Microsoft and extending the OpenStack community by developing an open-source initialization service specially designed for Windows instances, called *cloudbase-init*. The pushed patches into open-source projects and focus on IaaS field are the side-tasks that spice-up the usual daily challenges.

- Creating new features for cloudbase-init by extending compatibility with different cloud services.
- Developing Argus, a complex testing framework which runs integration tests against cloudbase-init.
- Having a focus on OpenStack development and helping users around the world with deployment Q&As.

Done my first international speech about the Argus framework at EuroPython and helped the company to establish a new team and office in Iasi city.

#### 11 *Malware Researcher @ Bitdefender*, Romania: February 2013 - September 2014 (1 year 8 months)

- I'm taking with honor the great responsibility of offering SaaS solutions for the no.1 antivirus company world-wide. Proudly being part of a large team, my main focus here is to meet our clients' needs by developing demanding and challenging projects regarding parallel data processing and NoSQL databases.

- DrLink: a service designed to crawl efficiently web apps, with a distributed scanning of threats and suspicious files.
- Scrappy: an advanced application scraper that can recover from its last state in case of a stop/crash, which runs on custom plugins.
- Rediscoll: a high level collection of basic Python data structures & OS locks, implemented as Redis abstractions.
- Curloxy: a proxy provider web service with the ability to search, parse and test proxies from multiple external sources.

Done "from zero to hero" rounds by writing from scratch the projects above all by myself, while being involved into other bigger ones and being taught at the same time the beauty of Python's dark corners by my coworkers. I held a presentation about Python `exec` / `eval` vulnerabilities at a local security conference.

## II. Education

#### 1. *Student @ Universitatea "Alexandru Ioan Cuza"*: 2012 - 2018 (Bachelor of Computer Science)

I had a focus on data structures, algorithms and programming languages in general. Also, I was interested in software architecture/development and even graphic design. Software engineering and cryptographic areas always got into my attention.

#### 2. *Student @ Colegiul National "UNIREA"*: 2008 - 2012 (Baccalaureate in Math-Informatics)

I was involved in different tutoring activities and participated in online and official algorithmic contests and olympics. I was training on platforms like Topcoder, Codeforces, SPOJ, Infoarena and Campion, while having an interest in efficient problem-solving techniques.

#### 3. *Pupil @ Scoala Generala Nr. 3*: 2000 - 2008 (Unique theses and Physics)

I was participating to local and national olympics regarding physics, math, biology and chemistry.

### III. Knowledge

#### 1. **Python** 2/3, 17+ years, on Mac/Linux/Windows involving:

- action automation backed by AI
- RPA with Robot Framework
- web services and APIs with frameworks/tools like:
  - Flask (MVT, REST, web-sockets)
  - gRPC (Protocol Buffers)
  - Django, webapp2, CherryPy
  - Hug, Pycnic
  - Bocadillo, FastAPI (async)
- ORMs over databases:
  - NoSQL: Datastore, Redis, ElasticSearch, MongoDB
  - SQL: SQLite, PostgreSQL
- intensive use of the standard library and great understanding of the language reference
- strong background of software architecture, OOP and design patterns
- distributed systems, parallel computing and inter-process communication (dramatiq, arq, celery)
- data scraping, analysis, computation and modeling on multiple nodes
- regular expressions and optimal data splitting & storing procedures
- GUI programming in Tkinter and NUI with Kivy
- coding conventions (PEP8), documentation (Sphinx), packaging (PyInstaller)
- unit testing & mocking (pytest, unittest, nose), TDD/BDD, linting (pep8, flake8, hacking, pylint), CI/CD
- black magic under metaclasses, decorators, generators, coroutines, closures, context managers, MRO etc.
- focus on data science with: numpy, scipy, scikit-learn, matplotlib, jupyter
- making my way through: gcloud, poetry, pyenv, virtualenv, conda, gunicorn, nginx, docker, fabric, kubectl
- solving challenges on checkio.org, wechall.net

#### 2. **C/C++**, 4 years mostly under Linux, but some Windows flavor too:

- C standard library and C++ STL
- (re)implementing, using and combining data structures
- algorithms regarding graphs, dynamic programming, greedy, backtracking and optimization approaches
- Linux sockets and OS related utilities
- Windows API paradigm
- solving challenges on: TopCoder, Codeforces, SPOJ and national contests

#### 3. **Security**:

- steganography and applied methods of stable information hiding/revealing through usual packages
- cryptanalysis and basic understanding of (a)symmetric encryption, encoding/decoding and hashing algorithms
- very basic experience with web/desktop application vulnerabilities and exploits
- reverse engineering and static analysis of executables (IDA)
- malware researching

#### 4. Others:

- Front-end: HTML + Jinja2, JavaScript + jQuery, CSS + Bootstrap
- Automation: Robot Framework, Shell (Bash, Batch, PowerShell), Autolt
- Occasionally: Go, Java, ASM
- Micro-services: Google Cloud (App Engine, Firestore, Functions, Tasks, Crons, APIs), Heroku, AWS
- Deployment: Docker, Compose, Swarm, Kubernetes (Helm)
- Tools: PyCharm, VSCode, Vim, Git (git-flow)

## IV. Bragging Rights

1. Co-Founded TrueStory, a news aggregator offering you similar, but contradictory stories for the same subject.
2. During college, I've successfully designed and implemented a mobile application able to intercept and live decode intermittent light emitting sources as Morse code into text without any calibration required.
3. I've succeeded to write in a few weeks a fully working and robust application offering CLI and GUI support, able to analyze, parse, decompose and model PDF objects for hiding data into them. Encrypted or not, the information was hidden using a unique steganography method based on content representation states, resulting in a perfect valid and normal PDF file as output, displaying the very same interpreted content. (studied in depth the PDF file format)
4. Had my first international presentation at EuroPython 2015 in Bilbao, Spain about an open-source CI generic-purpose system on top of OpenStack and tempest.
5. First time as a speaker, at a local conference, I've talked about security risks of evaluating data from untrusted sources inside software, with real-life examples of hacker vs. victim cases. This was followed by a second speech in the next year, about steganographic methods of hiding data in usual files.
6. Together with two friends and co-workers, I've managed to create a brand called RoPython, officially approved and sponsored by PSF, through which we've organized regional conferences, workshops and talk sessions targeting students and not only.
7. Been part of the jury team at a national projects contest called InfoEducatie in 2014 (sponsored by Google), where I've designed an open challenge for transmitting data between two devices without using conventional technology.
8. Passed the entire hiring process and elaborate psychological interview at DarkMatter, UAE.
9. Had my first job right after entering college at a top antivirus company worldwide, Bitdefender.
10. At the age of 16, I had my first commission by implementing a fast CLI script able to simulate dictionary attacks and pen-tests over open VNC servers. The intention is to find a working username and password pair which will prove the vulnerability in order to fix it. Afterwards I've created a solution of doing the same over RDP servers without studying the protocol, but instead using telnet reverse connections for checking if the current pair was a match. (studied RFB protocol and various RDP clients)

- 1.1 Created a CLI secure chat with basic AES encryption over RSA handshake.
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- 1.2 Created scripts in high school with GUIs using Tkinter for:
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  - discovering and testing vulnerabilities like LFI, RFI and SQLi (aid fixing)
  - generating valid social ID numbers (educational & validation purposes)
  - searching over the web for answers to questions at online Oracle tests (high-school project)
  - passing and reversing data through a couple of hashing, encoding and encryption algorithms
  - hiding and revealing information in pictures using the LSB method and standard encryption
  - blocking certain web pages on local host by managing the *hosts* file
  - key-generators for car equipments by reverse engineering math functions (service debugging)
- 1.3 Learning all by myself and been motivated since 2007 by security forums like darkc0de, rstcenter/rstforums, mortal-team and many great people around the globe.
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## V. About Me

I was born in Romania (Focsani, Vrancea) on 26th of April 1993 and since childhood I had a passion for electronics and learning how things are working by decomposing them into smaller pieces and trying to figure out how they function separately and together. Then, I proceeded further to something more practical by earning a strong background in physics (newtonian mechanics, optics, calorimetry, electrostatic and quantum mechanics), with which I was obtaining honors in national contests and olympics. After that, I was very eager to implement cool ideas and express my thoughts by inventing and creating practical things, so I was getting slowly into the programming world, where my baby steps were to write "help" into the CMD line prompt and gluing out commands together. I really wish to say "thank you" to the person that once said to me: "*Without a real programming language, you're like a lion in a cage.*" when saw my first scripts in Batch. That leaded me to **Python**, and this was the beginning of my whole experience described above, including what will follow.

My passion for this language began in 2007 and still continues today, where the first 5 non-professional years of activity had the same impact on me in terms of learning, discovering and accomplishments as the rest of the professional ones had. Despite all of these, my biggest joy is that I was not giving up on my social life, sports and healthy life-style, with a focus on overcoming my area of comfort every time I could.

## Distinctions

- Qualified for **Innovation Labs Bucharest** (2019)
- *Best Marketing* at **Startup Weekend Iasi** (2014)
- *Bronze Medal* at **National Olympiad in Informatics** (2012)
- Passed *Introduction to Artificial Intelligence* from **Stanford University** (2011)
- *Mention* and *Special Mention* at **National Physics Olympiad** (2007-2008)

## Languages

- English: Full Professional Proficiency
- Romanian: Native/Bilingual Proficiency

## Resources

- LinkedIn: <https://www.linkedin.com/in/cmin764>
- GitHub: <https://github.com/cmin764>
- Blog: <https://cosminslife.wordpress.com>

- Facebook: <https://www.facebook.com/cmin764>

## Contact

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### Note

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