



Martin Natano

Curriculum Vitæ

Work Experience

- since 2018 **Senior Software Developer**, *iMobility GmbH.*, Vienna.
Development and maintenance of the microservices-based backend for the Wegfinder app.
Technologies: Python, aiohttp, Postgres, Elasticsearch, OSRM, Kubernetes, Docker
- 2017-2018 **Senior Developer, Software Architect, Product Owner**, *RadarServices Smart IT-Security GmbH.*, Vienna.
Implementation and maintenance of multiple IT-security and SIEM related products for usage in-house.
My work included designing two domain-specific programming languages for high-performance data processing and aggregation, and implementing their corresponding compilers. The lexers and parsers for both languages were implemented in PLY, with a specialized code generation and optimization stage emitting Python bytecode.
In addition to my development role, I was also responsible for planning the products on an abstract and on a technical level.
Technologies: Python, Postgres, SQLite, C, Elasticsearch
- 2015–2017 **Lead Developer**, *Ethics Commission of the Medical University of Vienna*, Vienna.
Follow-up to the original ECS project started in 2010 with the goal to adapt the system to the needs of other ethics commissions.
I was responsible for technical and product planning, software upgrades (Python 2 to 3, Django 1.2 to 1.8 and all other dependencies), replacing MooTools and a couple of outdated JS libraries with jQuery, replacing most handwritten CSS code with Bootstrap, and implementing many new features in the backend as well as in the frontend.
Technologies: Django, Python, Postgres, jQuery, Bootstrap, Weasyprint, Celery, GPG
- 2012–2015 **Developer, Security Researcher**, *RadarServices Smart IT-Security GmbH.*, Vienna.
Implementation of network security solutions. Research & development in the security field regarding network anomalies, behaviour analysis and statistics.
Technologies: Ruby on Rails, Python, C, Postgres
- 2011 **System Administrator**, *Spitzauer & Partner Rechtsanwälte GmbH.*, Vienna.
Deployment of a VOIP Solution.
Technologies: CentOS, Asterisk
- 2010–2012 **Lead Developer**, *Ethics Commission of the Medical University of Vienna*, Vienna.
Design & implementation of a paperless office system (ECS) suited for the needs of the Ethics Commission of the Medical University of Vienna.
Technologies: Django, Python, Postgres, MooTools, wkhtmltopdf, Celery, GPG

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<https://gitlab.com/natano>

2009–2010 **Web Developer**, *Mjam GmbH*, Vienna.
Maintenance of the customer facing Django web service. Implementation of group orders and a Debian-based POS system.
Technologies: Django, Python, PostgreSQL, Debian, wvdial

Contributions to Open Source Projects

2016–Present **OpenBSD**.

- Improvements and bug fixes in filesystem code (ffs, mfs, fuse) and the generic VFS layer
- Cleanup of integer width or signedness mismatches in the kernel
- Reduce root privileges during make build and release in src and xenocara
- Port of NetBSD's makefs(8) tool and integration into the ramdisk build
- Co-authoring of mknod(8) rewrite
- Assorted improvements to vi(1), mandoc(1), patch(1), ul(1) and make(1)

2013–2016 **Bitrig**.

- Improvements to the ps(1) utility, including hierarchical output and increased POSIX compliance
- A device filesystem (devfs; not imported to the source tree)
- TMPFS snapshots and various bug fixes
- Assorted improvements to ksh(1), fdisk(8), acpithinkpad(4) and libc

Security Research

2015 Discovery of two shell injection vulnerabilities in the BSD patch utility (CVE 2015-1416 and CVE 2015-1418) affecting OpenBSD, NetBSD, FreeBSD, DragonFly BSD, Minix and older versions of GNU patch.

Open Source Projects

douf00	PDF Presentation Software	<i>Python & C, 3-clause BSD</i>
entropy	Fast entropy calculation for binary data	<i>Python & C, ISC</i>
epl	Embeddable programming language	<i>C, ISC</i>
git-orm	Object-relational mapper on top of git	<i>Python, ISC</i>
organ	Hammond organ synthesizer	<i>C, ISC</i>
passta	Simple command line password manager	<i>Python, ISC</i>
tiget	Command line ticket tracker	<i>Python, ISC</i>

Languages

German native
English fluent

Talks

2013	Implementing git-orm	<i>vienna.rb</i>
2013	The Pythonic Universe	<i>PyLadies Vienna</i>
2009	Snaqx: Distributed Port Scanning Framework	<i>PlumberCon</i>

Musical Education

1995–2007 Piano lessons at the Musical School of Vienna (Prof. Midas Forrer)
Regular performances on stage
1999, 2000 Attendance at the 15th and 16th Bösendorfer International Piano Course

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