



Skills

Specialist	Rust	Tools	Arch Linux, Debian, Alpine Linux, Guix
	C		Virtual Box, QEMU + KVM
	Python		Podman, Docker
	JavaScript / TypeScript		VSCodium, Gram, Helix / Vim
	D		Git
	Typst		GDB / LLDB, PDB
Enthusiast	Bash	Miscellaneous	Cargo, UV / Poetry, Tup / Scons / Make
	Go		Valgrind, Perf
	Cython		DirEnv
	NASM		PostgreSQL, MySQL, SQLite
	Scheme / Common Lisp		S3, MinIO / RustFS
	Arduino		JSON, YAML, TOML, INI
Explorer	GLSL		CSS / SCSS
			HTML, XML, SVG, Jade, Jinja
	C++		OpenSCAD
	Haskell		

Experience

2021 – 2026	Tech Lead / Senior Backend Software Engineer
COMPANY	Hyperexponential <i>Ltd.</i>
TECHNOLOGY	AWS, PyO3, Parquet, SQLx
SUMMARY	Architected and built the platform’s <i>Kernel</i> a modular, extensible, and embeddable <i>model execution engine</i> written in Rust, that can run arbitrary user-defined Python projects safely and securely, whilst interfacing with the rest of the system. The Kernel was developed with low-level memory management (its own in-memory database with nuanced permission control), complex IPC mechanisms (its own protocols and primitives), strict initialisation (its own system and service management), lockless, distributed caching, as well as, versioned user-facing SDKs against multiple Python versions, versioned APIs, and versioned runtime artefacts. Built a team around the Kernel and led it, whose task was to document, maintain, and develop the project further. Supported various other teams of the rest of the model execution <i>organisation</i> by consulting on and designing solutions that aligned with the technical visions and business directions. Levelled up almost two dozen engineers across multiple teams in Rust with two recorded courses, a total of 30 hour-long lectures.
2020 – 2021	Senior Fullstack Software Engineer
COMPANY	Hopster — <i>Plato Media Ltd.</i>
TECHNOLOGY	GCP, MySQL, SQLAlchemy, Brightcove, Dalet
SUMMARY	Orchestrated and implemented the Python 2 to 3 migration of the CMS including not only the necessary language changes and idiomatic improvements, but the infrastructural changes (required to support a very different, backwards incompatible runtime of GAE) and therefore the needed architectural redesign as well. Designed and built an asynchronous task executor framework to declaratively define, compose, and run jobs on GCP with built-in reporting system, monitoring UI, and time-box management (intended to be a drop-in replacement for the old App Engine SDK’s Pipeline). Designed and implemented a serverless health monitoring system. Led an outsourced team to restructure, sanitise, and unify a smart TV application’s support of different partners and their platforms.
2018 – 2020	Senior Fullstack Software Engineer
COMPANY	Tassomai <i>Ltd.</i>
TECHNOLOGY	Django, MyPy, Stripe, PostgreSQL, Redis, Angular, NgRx
SUMMARY	Designed and implemented a low-level, arbitrary length and alignment bit-parsing and slicing mechanism in Python and C on top of Redis’ bitfields to reduce internal network traffic and size of the in-memory caching layer. Designed and implemented a high-level proxy objects hierarchy on top of Stripe’s API in Python to support the latest SCA requirements as a backward compatible, robust, idiomatic, and flexible wrapper. Designed and implemented a modular, composable, declarative, and reactive animation framework in TypeScript to support CSS, JavaScript, and Lotti-animations to unify all animation types and support highly complex dynamic compositions.
2016 – 2018	Senior Fullstack Software Engineer
COMPANY	POP — <i>We Got POP Ltd.</i>
TECHNOLOGY	AWS, TurboGears, PostgreSQL, SQLAlchemy, React, Flow, Redux
SUMMARY	Redesigned and implemented a customer facing message editor in Python and JavaScript with deep-integration to a large number of key features and services of the platform. Designed and implemented an efficient—both size and speed wise—rich-text protocol and rendering engine in Python and JavaScript to support custom text field editing and their serialisation. Implemented native Python 3 support for AWS Lambda in C (when Amazon only supported Python 2) to develop <i>modern</i> services targeting this version.
2014 – 2016	Creative Software Developer
COMPANY	Kitchen Budapest — <i>KIBU Innováció Nonprofit Kft.</i>
TECHNOLOGY	Flask, SQLAlchemy, GLFW, GLEW, OpenGL, Oculus SDK, Arduino
SUMMARY	Designed and implemented a modular, extensible, parameterised, and 3D printable construction-toy system in OpenSCAD and an accompanying framework in Python and Arduino/C++ to make building, programming, and experimenting with robotics accessible to anyone. Designed and implemented an event-driven, high-level, and declarative hackathon-framework and runtime in C with both Python and JavaScript bindings to help teach and recruit teams to the talent-programme of the company. Designed and implemented a hand-gesture-driven 3D modelling VR simulation in C and Python targeting the Oculus Rift and the Leap Motion, on top of Blender’s game engine to represent the company on various exhibitions.
2011 – 2015	Consultant and Faculty Lecturer
COMPANY	Moholy-Nagy University of Art and Design, Budapest
SUMMARY	3D mesh and CAD modeling, and rapid prototyping techniques.
2012 – 2014	Software Developer
COMPANY	Freelance
TECHNOLOGY	Compass, PyQt5, cvxopt, PyMunk, RPi.GPIO, RhinoPython, pyd
2011 – 2013	Founder and Lead Designer
COMPANY	Devsigner
2009 – 2011	Industrial Product Designer and Concept Artist
COMPANY	Malibu <i>Kft.</i>
2005 – 2014	Industrial Product and Graphic Designer
COMPANY	Freelance
2007 – 2008	Apple Genius and Technician
COMPANY	XMS — <i>X-Multimedia Shop Kft.</i>

Education

2010 – 2013	Metal Worker and Jewellery Designer, BA
UNIVERSITY	Moholy-Nagy University of Art and Design, Budapest
2008 – 2010	Industrial Product Designer, BA
UNIVERSITY	Moholy-Nagy University of Art and Design, Budapest
2005 – 2007	Industrial Product Designer, BSc
UNIVERSITY	Budapest University of Technology and Economics