

CV's contents that are less personal reflections on the subject, but rather professional descriptions of my work and aspirations:

Objectives & Aspirations

I seek a company where I can build a long-term career and where hard work and dedication are rewarded. My goal is to find a role that engages my interests, provides opportunities for growth, and allows me to contribute meaningfully to the company's success. I want to leverage my skills in a challenging environment that values autonomy, yet fosters collaboration with passionate professionals. Ideally, I envision a workplace where I **want to be**, whether working remotely or on-site by choice. I value a healthy work-life balance, flexibility, and the opportunity to take pride in my work.

Professional experience

I'm a professional with over a decade of diverse experience spanning various fields, ranging from **machine learning** and **web development** through **3D visualizations** to professional **photography**.

I have experience in leadership roles in **smaller teams**, including CEO of a tech startup, where I led a complex multiplayer **online game development** project, and later as CTO of a startup doing **AI powered industrial data management** and SaaS solutions for aviation MROs and other heavy industries.

I have some experience in business negotiation and project management, but am my *very best* at **creative design and problem-solving**, where I can make the most of my wide spanning technical background I gathered throughout my work and hobbies. I am a very firm believer in the pareto principle, and try to equip myself with knowledge among various fields, while relying on specialists in matters where I am not an expert of.

Thanks to my english skills, I excel in multicultural environments.

Committed to **continuous learning and improvement**, with an eye for detail and a passion for technology and innovation, I try to use technology to improve all aspects of my personal and professional life, such as using AI tools when justified/appropriate.

2020 – Present: Data Science, Machine Learning, Full-Stack Developer & Acting CTO at Pzartech Ltd.

I Initially joined as a freelance developer, wound up acting as CTO, overseeing all development and architecture decisions.

I was tasked with the **re-development** of a **data management software** prototype and subsequent deployment as an ** SaaS solution** designed for aerospace MRO's and heavy industry.

During my tenure I was collaborating on strategic planning, technical decision-making, and future company growth, including equity stake for my contributions.

A few bigger milestones include an **SAP S4/HANA** integration prototype, **ElasticSearch** analytics prototype, **Azure storage** management with media services **video streaming** prototype, and the project's core value add: development and implementation of **visual search and OCR** solutions.

Web based data management software

The project was managed in **Azure DevOps** using a **CI/CD** pipeline implementation, hosted in Azure. We decided on **.Net Core** with **Blazor Razor** pages, **MongoDB** for database and **MAUI** for Android and WebClient build targets. The project was a complete rewrite of the existing software, with a focus on **modularity** and **scalability**, so we used a microservice architecture with a frontend server, core server, and various recognition module servers.

Machine learning and training

I was tasked with improving the results and scope of the **image classifier network** we were using for **industrial part recognition**. The original idea proved to be too difficult to optimize in the long term, so with a little push from a consulting expert I began to train a new network from scratch, marking my foray into the world of machine learning.

Increasing the difficulty was the fact that the **data quality was sporadic, without** a realistic **chance to re-capture any video** footage, and several mislabellings both in the training and testing data, so I had to put a lot of effort into visualizing the performance of each training run to find out what the issues were.

Uncovering these errors in the datasets forced me to engineer various ways to detect and fix them, ultimately creating an **ingestion and processing toolchain** in python, utilizing several steps of **quality assurance** along the way, like custom neural networks trained to detect issues and mark files before handing them off to later processing steps.

The result was a model that proved capable in real-world tests and performed well above the expectations: 84% accuracy in single-image top-4 scenarios, and **perceptually 100% accuracy** as the system was upgraded to enable multi-image prediction.

Another task of mine was the prototyping of an **OCR software** solution, where we had to detect writing from stamped machine parts to hand-engraved dotmatrix serial numbers.

While this project never got out of the prototype phase, the solution I came up with, (along with the pre-processing, hyperparameters, and prospective fine-tuning method) resulted in our version mostly keeping up with, and in some more niche and difficult cases even surpassing industry standard solutions, such as Azure's AI Vision. The fine-tuning solution's prototype was also completed: a **synthetic data generation script** written from scratch for Blender, opening the gateway to fine-tune the model incredibly well for specific scenarios if needed.

2011 – Present: Freelance Professional (Photography, 3D Graphics, Webdesign, Architectural Visualization)

I have over the years gathered experience across various industries from **photography**, and **programming** to real-estate **renovation**.

On the computer side of things I was part of a team tasked with building a multilanguage **checklist app for iOS**, and I had worked on a **Magento based online** furniture **store** mostly written in PHP.

On the visuals front, I worked on interactive, real-time **3D architectural visualization** projects using **Unreal Engine 4** and **Blender** for both personal and client projects.

I did **3D modeling and animation** work in Blender, and **branding, advertising, logo and web design** work in Adobe Creative Suite.

For personal projects and changing things up, I did some remodeling and renovation work, and also worked for quite some time as a freelance **photographer** just for fun and to keep my skills sharp.

3D modelling and visual effects

I had the opportunity to work on some 3D visualizations for interactive training material related to natural disasters. I had to come up with ways to illustrate, then model and render various **natural disasters**, such as floods, earthquakes, wildfires and wildfires. To do this, I used **Blender's physics simulation** for **fluids**, and **smoke**, along with **rigidbody collisions ***, and **destruction. In order to meet tight deadlines, I had the *rendering** running on seven computers in the office **simultaneously** after baking the sims.

Interactive Architectural Visualization

A contractor friend of mine approached me with an offer to help him with a family house he was building soon. We decided to see if prototyping a realistic **interactive 3D walk around showcase** for the project was worth it.

I was provided some CAD drawings and a floorplan on which I modeled the house in **Blender**, designed some **realistic PBR materials and textures**, and set up a scene in Unreal Engine 4. The result was a realistic interactive 3D walk around showcase of the house, that you can still try out [here](#) or just watch another one of these projects [on youtube](#). I even built custom model generators for kitchen cabinets and a solar gain based 3D plant-growth model in **Houdini**, just for giggles.

Realistic Architectural Visualization

I had been designing and rendering my house for some time when an opportunity to do some freelance work came up. I

had a 1-day deadline to create 3D renderings to apply to a government grant for renovating a condo's yard. I took some photos of the sites, measured them and sketched it out in **Blender**, quickly made some materials and textures, and rendered it out in **Cycles**. The result was a realistic rendering of the yard. The grant was won, and the yard was renovated for two different buildings.

2014. – 2020. Stoneglass Labs KFT., Szeged (CEO)

Headed a software development team in a small company developing an ambitious online multiplayer game.

Stars End (MMORPG game software project)

Led development and design of an ambitious **multiplayer online game** involving large-scale, space-themed gameplay. I handled virtually all aspects of **game logic, engine customization (Unity 3D and Unreal Engine 4) from AI logic to shader programming**. Built over 300 custom **icons, volumetric effects, and modular 3D spaceship models, UI elements** and a myriad of tools. The project required self-learning of various skills from writing the background lore to refining of business models for monetization, a creation pipeline for assets, including all **graphics both 2D and 3D, procedural geometry generation logic, VFX and sound design**.

Interests

Creation

Creating and altering things has grown to be a fundamental part of my life. Whether it's a piece of software, a 3D model, furniture, or a photo, I have enjoyed the process of creation and the satisfaction of seeing the results of my work since early childhood.

Creativity and Design

A strong passion for creativity, from legos to VR to simulation and design, this passion fuels my interest in software development and design.

Mechanics and Electronics

What started out as hobby R/C models has kept up with me throughout my life, as I have built (and repaired) various electronic devices. This hands-on experience of taking things apart, understanding how they work, and putting them back together enhances my understanding of hardware-software integration.

Technology and Futurism

I am deeply interested in emerging technologies and their potential impacts on society, such as AI, quantum computing, and space exploration. This forward-thinking mindset gives me perspective when I approach my software development and data science endeavours.

Nature, Elements, Exploration

Since as long as I can remember, I have always enjoyed water and am a certified scuba diver. For most of my adult life, I have been a rock climber and outdoor enthusiast. Lately I picked up paragliding, adding an additional element to my interests. In my life, I seem to gravitate towards activities that reward me with a sense of exploration and connection to the natural world, while demanding personal responsibility and self-reliance.

The readme file of my CV repository, that was generated with the help of GPT4o:

I created this repository for a few reasons:

I wanted to provide specific CVs for specific job applications, tailored to the job description and offer the HR person some freedom to choose the type they like to work with, both in English and Hungarian.

- To do that, I'd need a **lot** of different versions of my CV.

- I got tired of trying to keep my various CVs in sync.
- I wanted a simple, text-based format that I can version control, update and change should I want to.
- I also wanted to be able to link to dynamic pages or downloadable PDFs, and easily exclude potentially data-heavy content like images or videos from the CVs.

This approach is the result of that. It's not perfect, but it's mostly ok. It allows me to have a **single source of truth** for my CVs, and generate them in a format that's easy to share and read, and somewhat simply keep the content of the two languages in sync.

Meanwhile, GitHub automatically renders the Markdown files, so I can easily share the CVs with anyone, and they can view them in a nice, readable and up-to-date format.## Beliefs and Expectations

I am a firm believer in **meritocracy** and the power of hard work. I expect this to be the case in any company I work for.

Compensation Philosophy

- **Trade-offs:** Willing to trade immediate monetary reward for future growth opportunities like equity or profit-sharing.
 - Thoughts: *This pushes my buttons a bit, because I have been burned before by companies that promised equity but never delivered. I would be more comfortable with a mix of salary and equity, or an iron-clad clear path to equity. Honestly, I think this is the best solution, tying my long-term goals to the company's long-term goals.*
- **Fair Compensation:** Expect to be compensated fairly for my work.
 - Thoughts: *I have been burned so many times by not being paid, that I no longer do any pro-bono work, period. This is extremely hard to keep up though, because I am someone who naturally ants to help and share my ideas with others to fix stuff. For example, I have been on job interviews where I was told of some projects they were doing for three clients. I literally old the CEO how I'd approach and as it turns out they were basically doing all that in the next room.*
- **Negotiation:** Not afraid to negotiate for a fair salary.
 - Thoughts: *I always try to be as polite and professional as possible, but not a lot of things piss me off quite as hard as disrespecting me with lowball offers, and saying stuff like "It's just negotiation bruh! Don't take it personally!". How am I supposed to not take it personally when you want me to have less, and pass that savings along to the company?*
- **Confidence:** Confident in my abilities to find the right fit; not desperate for a job.
 - Thoughts: *Truthfully, I do need money to survive, and I do have expenses, but I'm not going hungry. I've done pretty shitty work before like absolutely mindless construction work. I'm ok with that too. It gives me time to listen to podcasts and exercise. I literally built my friend's family house's foundation.*

Work-Life Balance

- **Flexibility** I am willing to come in early, stay late, and work weekends occasionally, but abuse of this flexibility is a deal-breaker.
 - Thoughts: *I'm willing to crunch, when it has a point. Maybe someone screwed up, maybe servers failed, or something, but I get peeved when it all could've been avoided with some foresight. I usually grit my teeth and do the job, and so far I've been able to pull off miracles, but almost every single time it was absolutely not worth it to bother. Maybe this was the fault of the business/sales part of the companies where I went ahead and stood my ground and took blows, but almost every time someone approached us with a ludicrous deadline for yesterday, the deal fell through for lack of funds or 'going a different way' on the client's end, while we (I specifically) were left holding the bag for the time spent. Outside work hours. On weekends. On holidays.*
- **Health and Sanity:** Not willing to sacrifice health and sanity for someone else's bottom line.
 - Thoughts: *I've been there, done that, and I'm not going back. I've been in a situation where I was working 12-14 hours a day, 7 days a week, basically doing nothing else than eating sleeping and coding/3D modeling, and literally nothing ever came of it.*
- **Temporary Workload Increases:** Can empathize with situations requiring a temporary increase in workload, but this should be the exception, not the rule.
 - Thoughts: *I usually gravitate towards assuming people are not jerks on purpose, and when someone screws something up that results in delays, I usually, while not amused, don't make a big deal of it. It's mostly okay if it's*

worth it, as life can't always be predicted to a T.

Communication and Growth

- **Open Communication:** Comfortable giving praise and asking questions if something is unclear.
 - Thoughts: *I'm usually open and honest, and my psychologist says I'm crazy empathic... and I expect the same from others. I'm not a mind-reader though, if you want something, ask for it. If I did something wrong, tell me, and maybe explain why it was wrong, and I'll try not to make the same mistake again. Absolutely no need to berate, belittle or act like I'm your stupid child. It just makes me lose respect for you the very second, and in my mind you only succeed in embarrassing yourself.*
- **Feedback:** Comfortable receiving feedback and constructive criticism.
 - Thoughts: *20+ years of photography have made me a bit resilient to criticism, but I'm not a robot. I respect your opinion, and I'll try to take it to heart, to the extent that I feel you are in the right about it. My mom liked all my pictures, regardless if they were good or not, so I learnt to just factor in the 'expertise' of people into their opinions. If you're not a photographer or haven't done any visual work, your opinion of my image's composition might not matter to me beyond that of a datapoint of a random person's impression. If you're Ansel Adams and you tell me my images are flat and boring, then I'll definitely need to do some soul-searching and re-evaluate myself.*
- **Learning Mindset:** Not afraid to admit when I'm wrong; always willing to learn from mistakes.
 - Thoughts: *I kinda got to the party late in my life, around 25, where I realized I can learn things, and not just things I can learn, but basically everything, given enough time.*
- **Teaching Others:** Eager to teach others what I know and learn new things.
 - Thoughts: *Teaching is both a form of learning reinforcement technique, and a way to give back to my peers and save them time and pain through my own. Sadly, I often find that, throughout various aspects of my life, people tend to disregard my opinions and experience. It's their prerogative, but it's a bit frustrating when I see them make the same mistakes I did, and I can't do anything about it.*

Ai tools and Automation

- **AI Tools:** I am comfortable using AI tools and automation to improve efficiency and productivity, I am also willing to learn new tools and technologies.
 - Thoughts: *I'm a bit of a tech geek, and I'm always on the lookout for new tools and technologies that can help me do my job better. I'm not afraid to try new things, and I'm always willing to learn new skills. I'm literally writing this thought to teach an AI model to more think like me. Where that leads is a bit scary, but whatever, it's coming, not like I can do anything to stop it...*
- **Automation:** I am very partial to automate-away problems I keep encountering.
 - Thoughts: *I'm a bit of the 'lazy programmer' archetype from the Bill Gates quote "I choose a lazy person to do a hard job. Because a lazy person will find an easy way to do it.", and I'm always on the lookout for ways to automate repetitive tasks, and I get nauseated every time I need to write the same lines of code twice. This is why I'm a fan DRY principle, and I'm always on the lookout for ways to make my code more efficient and maintainable, properly naming variables and classes. I'm looking at you, python module programmers... what the hell is up with all the incomprehensible asinine gibberish you like to call your packages? Take a lesson for naming things from NASA for christ's sake.*
- **AI Ethics:** I am concerned by the way others might think AI tools impact their work, and I am willing to help them understand the benefits and limitations of AI tools.
 - Thoughts: *_This, as far as my experience on the matter, mostly comes from ignorance, and bad experiences from bad-actors who see something, and they try to find loopholes and exploit it to the max, by taking easy shortcuts and pumping out garbage content, flooding the market with it. I'm not a fan of this, and as soon as I start building something, I consider the ethical implications of people who are willing to use it for nefarious purposes.*

Sports and Physical Activity

- **Importance of Physical Activity:** I believe that physical activity is essential for a healthy lifestyle and productivity.
- **Teams:** Even though I'm a team player, I heavily dislike team sports. I prefer individual sports like running, swimming, and

cycling.

Health

- **Mental Health:** I believe that mental health is just as important as physical health, and I am willing to take steps to ensure my mental well-being, like meditation, therapy, and mindfulness.
- **Physical Health:** I believe that physical health is essential for a healthy lifestyle, and I am willing to take steps to ensure my physical well-being, like regular exercise, a balanced diet, and regular check-ups.
- **Sleep:** I believe that sleep is essential for a healthy lifestyle, and I am willing to take steps to ensure I get enough sleep, like maintaining a regular sleep schedule, avoiding caffeine and electronics before bed, and creating a comfortable sleep environment.
- **Diet:** I believe that diet is essential for a healthy lifestyle, and I am willing to take steps to ensure I eat a balanced diet, like cooking my own meals, avoiding processed foods, and eating plenty of fruits and vegetables.
- **Vices:** To be frank, I believe smoking is a litmus test for intelligence. I don't smoke, and I don't drink. What I do is have a bit of coffee addiction/snobbery going on. In fact, I have a Google survey I made to track my coffee statistics at some point that ended up as this gargantuan table filled with charts and graphs. I rarely drink more than three coffees a day though. I do love cola, but my rules are that I never buy it for home, and I only drink it when I'm out and about. I hate expending my willpower on useless calories.

Hobbies and Interests

- **Reading:** I used to read a lot of sci-fi, especially during the MMORPG development days, but lately I've fallen out of reading.
- **Gaming:** I used to play a lot of games of varying types, still have Steam and GOG installed, and whenever something interesting comes along I usually try to set some time aside and give it a go, but realistically, gone are the days of 8-hour gaming sessions and raiding in WoW. I do tend to pick up indie titles now and then, like Disco Elysium, Inscryption, Sunless Skies, and the like. I am a giant KSP fan, and I've been playing it since the early days. Played most of the Fallout and Elder Scrolls games, and I'm a big fan of the Witcher series, but I also like city builders like Cities: Skylines and optimization games like ShapeZ.io. In case you want to check me out, my steam ID is eyewitness4560.
- **Music:** I love music, and I listen to a lot of different genres, but I'm a big fan of DnB, Synthwave, and Trance from the 90s. I also like some rock, jazz, and classic hits from the 70s and 80s. To my chagrin, I've never picked up an instrument.
- **Cooking:** I love cooking, and I've been doing it for a long time. I'm not a professional chef, but I can make pretty much *any* food taste good. I'm a big fan of spicy food, and I like to experiment with different cuisines. Most of my culinary knowledge comes from watching cooking shows, especially Good Eats with the absolute legend: Alton Brown. I always try to cook healthy and balanced meals, but I'm not afraid to indulge in some comfort food now and then.
- **Photography:** I love photography, and I've been taking pictures for a long time. I usually just do it for my own enjoyment, but I've done a couple of weddings and applied photography gigs. 20+ years of experience, and now I'm slowly getting into videography. My favorite subjects are landscapes, architecture, and abstract compositions. I'm a big fan of long exposure shots and black and white photography, but I also really like vibrant colors and high contrast, especially golden and orange contrasts with deep blues. I love converging lines and repeating patterns, and when I can frame things in a way that makes them look alien, or infinitely repeating minimalism. Last year I upgraded to an R6 Mark II after 13 years of using a 5D Mark II.
- **Traveling:** I love traveling, and I've been to a lot of places in and around Europe. I've been to Cuba and to Africa several times, but not really to Asia or the Americas. I've been to a lot of places in Europe, but I've never been to the UK, which is a bit of a shame. I really love the mountains in Austria and Switzerland, and I've been to the Alps several times. I've also been to the Canary Islands, which are beautiful, and I've been to the Mediterranean several times.
- **Environmentalism:** I am a big fan of environmentalism, and I try to do my part in reducing my carbon footprint. I recycle, compost, and try to buy local and organic produce whenever possible. I also try to reduce my water and electricity consumption, and I try to avoid single-use plastics. I'm a big fan of electric cars, in fact, I own a Tesla Model 3. I also try to support companies that are environmentally friendly and sustainable, and conversely I do not plan to work for companies that push billions of dollars into lobbying against environmental regulations and reasonable climate policies.
- **Pets:** I get along well with animals, and I have owned a Ferret named Gusztu and four West Highland White Terriers named Sweetie, Pocok, Pöti and Zümi. Right now I own a 20-liter aquarium, with two Neon Tetras and three Razboras.