

Kühn András Gábor

Programming-oriented CV

See the rest on my GitHub page:

<http://github.com/kuhnandrasgabor/cv>

Personal info

- **Location:** [Szeged, Hungary](#)
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- **Social:** [LinkedIn](#)
- **Visuals:** [Gallery](#)



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.

- Full-stack web development on .Net Core, Blazor, Razor, MongoDB, MAUI
- ML/AI development with Python
- Image classifier and OCR system training and deployment
- CI/CD with Azure DevOps, Azure Portal
- Version control with Git through Azure DevOps

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.

- SaaS software structure and design consultation for ERP software
- Azure cloud resource deployment and management
- Azure DevOps project management, CI/CD
- .Net Blazor Razor pages based project with MAUI multiplatform build targets
 - Azure bucket storage integration and management
 - API connections between
 - frontend server
 - core server
 - various recognition module servers
 - Image and Character recognition development and integration
 - Responsive UI with MudBlazor (although I'm not really a front-end developer)
 - Elasticsearch based page and usage analytics prototype
 - Media storage and streaming prototype with Azure media services
 - SAP integration prototype for SAP HANA S/4 Product Master Data

Skills used/developed

- C#, Python, HTML
- .Net Core, Blazor, Razor, MongoDB, MAUI
- Azure DevOps, Azure Portal, CI/CD
- Version control with Git through Azure DevOps

Machine learning and training

Image Classifier

I was tasked with improving the results and scope of the image classifier network we used for industrial part recognition.

OCR

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.

Skills used/developed

- C# for the API, but mostly Python for training and inference
- FastAi, PyTorch, TensorFlow, Jupyter notebooks and Paperspace Gradient
- Flask, seaborn, matplotlib, pandas, numpy
- Docker, Docker-Compose

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

Worked on a multilanguage checklist app for iOS, a PHP Magento-based online store, interactive, real-time 3D architectural visualization projects, 3D modeling and animation, branding, advertising, logo and web design and as a freelance photographer.

3D modelling and visual effects

I had the opportunity to work on some 3D visualizations for interactive training material related to natural disasters.

[Go to 3D gallery](#) [↓]

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.

- Real-time interactive demo software using Unreal Engine 4
- Hybrid lighting, using both real-time reflections and switchable dynamic lights, with pre-baked lightmaps
- Realistic PBR materials and textures
- Custom model generators for kitchen cabinets and a sunlight based 3D plant-growth model in Houdini

[Go to interactive gallery](#) [↓]

Realistic Architectural Visualization

Quick and dirty, but still reasonably realistic renders of two gardens on a two-day deadline.

[Go to realistic gallery](#) [↓]

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, creation pipeline of assets, including all graphics both 2D and 3D, procedural geometry generation logic, VFX and sound design.

- Creative lead design
- Software design and development
 - Engine customization
 - Unity 3D
 - Unreal Engine 4
 - Architecture
 - Network communication
 - Data security
 - Scalability
- Gamedesign
 - Graphics design
 - Brand
 - 2D, 3D assets
 - UI/UX
 - VFX, shaders
 - AI, FSM
 - Sound and music

- Level design
- Story, missions and background info
- Development of content generation tools and additional software

[Go to starsend gallery](#) [↓]

Relevant Projects

Star's End - MMORPG (2013 – 2020)

- Led development and design of an ambitious multiplayer online game involving large-scale, space-themed, team-based gameplay.
- Handled all aspects of game logic, engine customization (Unity 3D and Unreal Engine 4), AI design, and shader programming.
- Built over 300 custom icons, volumetric effects, and modular 3D spaceship models.
- Project required self-learning of game mechanics, business modeling, and pipeline creation, including procedural geometry generation and VFX design.

Real Time ArchViz with Unreal Engine 4 (2020)

- Developed a real-time 3D architectural visualization for a contractor using Unreal Engine 4.
- Modeled in Sketchup, textured in Blender and Substance Painter, baked lightmaps, and implemented navigation via Blueprints.
- Created a realistic, interactive demo of the house with high hardware requirements, demonstrating photorealism within engine constraints.
- Delivered a downloadable, high-quality, executable version with real-time lighting and walk-through controls (WASD + mouse).+
- Download the demo: [Download Executable](#)

Studies

- **Business Coaching** (2013 – 2014) Basic business workflow and management training through TÁMOP 2.3.6 grant.
- **Tripont Light Academy 1-2-3** (2011 – 2013) Comprehensive training in lighting techniques, various photography disciplines, and project management.
- **SZTE JGYPK, Web Programmer Certificate** (2010 – 2011, *Incomplete*) Gained foundational skills in web development, including HTML, Java, SQL, and graphic design. Lost interest and shifted to photography and entrepreneurship.
- **SZTE TTIK, Computer Engineering BSc.** (2008 – 2010, *Incomplete*) Attended courses in programming (C, Assembly), computer architecture, discrete mathematics, and algorithms. Did not complete the degree, switched career focus.

Skills and competencies

Technical Skills

Programming Languages

- **Experienced:** C#, Python
- **Proficient:** C++, HTML, CSS, SQL, PHP
- **Familiar:** Java, JavaScript, TypeScript, C, Google Script, assembly

Frameworks and Technologies

- **Web Development Frameworks:**
 - **Experienced:** .NET Core, Blazor, Razor, MAUI, MudBlazor
 - **Proficient:** Angular
 - **Familiar:** Flask
- **Machine Learning Frameworks and Tools:**

- **Familiar:** FastAI, PyTorch, TensorFlow, Scikit, Jupyter Notebooks, Paperspace Gradient
- **DevOps and Containerization:**
 - **Experienced:** Azure DevOps
 - **Proficient:** CI/CD pipeline implementation
 - **Familiar:** Docker, Docker Compose
- **Data Analysis and Visualization:**
 - **Familiar:** Pandas, NumPy, Matplotlib, Seaborn

Databases and Data Management

- **Proficient:** MongoDB, SQL databases (e.g., MySQL, SQL Server)
- **Familiar:** ElasticSearch

Cloud Services and DevOps

- **Experienced:** Azure DevOps, Portal, Storage, App services and VMs
- **Proficient:** Azure Resource Management, CI/CD pipeline implementation
- **Familiar:** Docker, Docker Compose, Azure Media Services

Software and Tools

- **Version Control:**
 - **Experienced:** with Git (Azure DevOps, GitHub)
 - **Familiar:** with SVN
- **3D Graphics and Modeling:**
 - **Experienced:** Blender 3D, Unreal Engine 4, Unity 3D
 - **Proficient:** Substance Painter, Substance Designer, SketchUp, V-Ray
 - **Familiar:** Houdini, SolidWorks CAD, ArchiCAD, CATIA, Fusion 360
- **Adobe Creative Suite:**
 - Experienced with Adobe Photoshop and Adobe Lightroom

Creative Design and Game Development

- 2D/3D asset creation
- UI/UX design for web and applications
- Visual storytelling and game design
- VFX, shaders, and procedural/parametric modeling
- Experience with game development and engine customization in Unity 3D and Unreal Engine 4
- 3D modeling, texturing, lighting, and rendering
- Animation and physics simulation
- Architectural visualization and development of interactive demos

Professional Skills:

- **Project Management:** Experience managing projects from conception to completion, including software development, marketing campaigns, and creative projects. Familiar with Agile methodologies and Azure DevOps for CI/CD pipeline management.
- **Business and Negotiation:** Experience in business negotiation, client management, and corporate administration. Skilled in developing and executing strategic business plans.
- **Creative and Design Skills:** Strong background in creative design, including 2D/3D asset creation, UI/UX design, and visual storytelling for gaming and simulation. Experienced in VFX, shaders, and procedural/parametric modeling.

Soft Skills:

- **Leadership:** Experience in managing smaller cross-functional teams in mostly startup environments. Capable of mediating conflicts and fostering a collaborative workplace.

- **Communication:** Fluent in English (C2) and beginner in German (A1). Skilled in clear and effective communication with both technical and non-technical stakeholders.
- **Problem-Solving and Adaptability:** Strong analytical skills with a demonstrated ability to solve complex problems and adapt to new challenges. Comfortable learning new technologies and tools independently.

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.