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Profile

I have been fascinated with computers and technology since my youth. During my studies at ETH Zurich I co-founded a start-up company and after earning my degree I was employed at one. In this period, I learned to work under pressure and when to make an effort to succeed. While attending civilian service, I had the opportunity to gain insight into completely different areas. In order to expand my knowledge and to extend my horizon, I spent several years abroad in Prague as a PhD student. By now, I have worked in multiple industries and adopted a broad selection of technologies and programming languages. Furthermore, I regularly worked on pioneering solutions and in research. I am able to relate to a wide range of people and I integrate quickly into new teams. My personal interests are focused on computer graphics and its application in the software and entertainment industry.

Professional Skills

- Creative problem solving, exploration of alternatives and new opportunities
- Team-based pursuit and accomplishment of goals
- Acquiring and maintaining customer relations
- Excellent communication and presentation skills
- Attention to detail and efficient implementation
- Agile Development – SCRUM
- CyberSecurity CE and FDA

IT Skills

	C, C#, C++, Cg, CUDA, DirectX, GLSL, HLSL, Java, Objective-C, OpenGL, Python, Qt, WebGL, WPF Agile Methods, Algorithms & Data Structures, CI, Design Patterns, Software Architecture, TDD
Adobe	Acrobat, Dreamweaver, FrameMaker, Illustrator, Photoshop, Substance 3D
Assembler	AMD and NVidia GPUs, Intel architectures, SPARC architectures
Databases	Microsoft SQL Server, MySQL, OMS
Development & Processes	Aligned Elements, GitLab, GitHub, Jira, Microsoft Threat Modeling Tool, PyCharm, Qt Creator
Languages	CSS, Haskell, HTML, JavaScript, Oberon, Pascal, PHP, Prolog, SQL, VHDL
Libraries	AOT PTK & NaTK, Boost, Canoo ULC, CGAL, Helix Toolkit, ImageMagick, ImFusion SDK, libVLC, mitsuba, .NET, NVidia MDL, NVidia PhysX, OpenCV, OpenMesh, OpenSSL, QML, Swing, THREE.js, wxWidgets
Microsoft	Active Directory, MFC, Office, RMS, Teams, Visual Studio, Windows SDK, XNA
ML	ONNX, ONNX Runtime, Pandas, PyTorch
Networks	Cryptography, hijacking, layers, protocols, sniffing, spoofing, Wireshark
OS	AmigaOS, Atari TOS, Linux, macOS, UNIX, Windows platforms
Simulation/CG	3ds Max, Blender, cadwork, Maple, Mathematica, MATLAB, Maya, RenderDoc, VTK
Version Control & Builds	CVS, Git, Jenkins, NSIS, SourceTree, Subversion
Web/CMS	Apache, Joomla, Redaxo

Education

05/2015 – 06/2016	Charles University Prague – CUNI Prague <i>PhD student at the Department of Software and Computer Science Education</i> <i>Research in the area of Material Representations</i> <i>Publication: Virtual Ellipsometry on Layered Micro-Facet Surfaces - OSA Optic Express 2017</i>
03/2010 – 09/2011	Czech Technical University in Prague – CTU Prague <i>PhD student at the Department of Computer Graphics and Interaction</i> <i>Research in the area of Global Illumination</i> <i>Publication: Holographic Approach for an Eye Simulation - IADIS MC 2010</i> <i>Teaching assistant for the classes Computational Geometry and Digital Photography</i>

10/1999 – 03/2008 **Swiss Federal Institute of Technology in Zurich – ETH Zurich**
MSc in Computer Science
Major: Visual Computing
Minor: Information Security

08/1995 – 12/1998 **Grammar school, Liestal, Switzerland**
Scientific focus (Typus C)

Work Experience

06/2023 – now **Senior Software-Engineer** at Haag-Streit AG, Köniz, Switzerland (C++, Java)

01/2021 – 05/2023 **Software-Engineer Neuro** at AOT AG, Basel, Switzerland
Planning, implementation, and project management of stereoelectroencephalographic (SEEG) trajectory planning software (C++, OpenGL, Qt)
Full responsibility for Cybersecurity topics for CE and FDA certifications
Implementation of features for the CARLO osteotome and the craniomaxillofacial (CMF) planning software (C++, OpenGL, QML, VTK)
Improvement of the release process of the machine learning tools and speeding up the existing depth estimation model runtime based on Optical Coherence Tomography data (Python, PyTorch, ONNX Runtime)

05/2018 – 01/2020 **Software-Engineer** at Agathon AG, Bellach, Switzerland
Development of a 3D visualization for the HMI of all grinding machines in order to illustrate the current grinding process (C#, .NET, WPF, DirectX, HLSL, HelixToolkit, SharpDX)
Advancement of the complete software stack for the newly designed Laser NEO, this includes the low-level control of the individual hardware components and ranges up to the HMI of the complete laser machine (C, C++, Qt, OpenGL)

06/2017 – 01/2018 **Software-Engineer** at Inside Solutions AG, Liestal, Switzerland
Work performed for the Inside Reality project:
Development of converter tool to export 3D models and materials from Autodesk Maya to the One Inside 3D Engine (C++, Python, WebGL, gLTF, Maya)
Development of bake manager tool to pre-process global illumination data in Maya for the One Inside 3D Engine (C++, Python, WebGL, gLTF, Maya)
Development of material shaders for the One Inside 3D Engine (OpenGL ES)
Coordination between the software-engineers and the modelling team (Liestal, Switzerland – Skopje, North Macedonia)

05/2015 – 06/2016 **Researcher** at the Faculty of Mathematics and Physics, CUNI Prague, Czech Republic
Development and testing of new material representations in computer graphics with focus on light polarization (C++, Objective-C, GLSL, Disney BRDF, Microfacets, Substance 3D)

06/2014 – 12/2014 **Head of Software Engineering** at Zuwalla GmbH, Altenrhein, Switzerland
Payload and sensor integration (C, C++, OpenGL, Qt)
Configuration of UAV ground control stations (Barco)
Real-time video-streaming with telemetry data from a racing car (C++, Qt, libVLC)

01/2013 – 04/2014 **Software-Engineer** at Swiss UAV AG, Niederdorf, Switzerland
Payload and sensor integration (C, C++, OpenGL, Qt, libVLC)
Development of simulations, tests, and libraries (C, C++, Qt)
Correspondence with suppliers and customers

09/2012 – 12/2012 **Graduate Trainee** at HP Banking Service Center, Liebefeld, Switzerland
Project tracking and controlling (Excel)
Redesign and optimization of project controlling

01/2011 – 08/2011 **Researcher** at the Faculty of Electrical Engineering, CTU Prague, Czech Republic
Industrial project with Skoda (VRUT – Virtual Reality Universal Toolkit) (C++, OpenGL, GLSL, wxWidgets)

04/2008 – 09/2008 **Software-Engineer** at Dybuster AG, Zurich, Switzerland
Involved in the development of Dybuster Coach (C++, OpenGL, Qt)
Maintaining existing Dybuster products
Customer support

04/2004 – 06/2006	Co-founder of Plirosoft AG, Zurich, Switzerland <i>Position as Software-Engineer (Java)</i> <i>Responsible for the creation of white papers</i>
01/2005 – 03/2005	Internship as Software-Engineer at IXOS AG, Basel, Switzerland <i>Development of a GUI prototype and successful binding to existing CMS (Java)</i>
04/2001 – 10/2003	Software-Engineer for the medical project AMIS at the University of Zurich, Switzerland <i>Development of GUIs used to collect and analyse data from myocardial patients (Java)</i> <i>Cornerstone for the founding of Plirosoft AG</i>
04/1999 – 06/1999	Case handler at UBS AG, Basel, Switzerland <i>Verification of bank transactions and training of Microsoft Excel</i>
05/1996 – 02/1998	Employee at engineering office Alois Novosad, Oberdorf, Switzerland <i>Drawing of construction plans using cadwork and manual creation of wooden models</i>

Civilian Service

09/2009 – 02/2010	Wohnheim Laubiberg, Liestal, Switzerland
10/2008 – 04/2009	Oekozentrum Langenbruck, Langenbruck, Switzerland
11/2004 – 12/2004	Alterszentrum Brugg, Brugg, Switzerland

Languages

German, Czech	Native speaker
English	Professional speaking and writing skills, APIEL Grade 5
French, Slovak	Advanced speaking and writing skills

Interests

Carnival in Basel	Staff member at "Zündhölzli/Brandloch"
Computers	ACM and IEEE member
Soccer	I play once a week as a supporter of "FC Oberdorf"
Sports	Cycling, diving, skiing
Travelling	Cities and dive locations
