Árpád Kerestély

Date of birth: | **Nationality:** Romanian | **Gender:** | | | |

Skype: k_arpi2004 |

WORK EXPERIENCE

22 MAR 2018 – CURRENT
COMPUTER PROGRAMMER – SIEMENS INDUSTRY SOFTWARE

Maintain, optimize and extend software written in C++ used in *Computer-aided engineering* (CAE).

Brasov, Romania

2 OCT 2017 – 10 JUN 2020
COLLEGE / UNIVERSITY TEACHING PROFESSIONAL – TRANSILVANIA UNIVERSITY

Teaching as Assistant:

- Fundamentals of Programming using C
- Distributed Computing using Java
- Object Oriented programming using C++
- Cloud Computing using Ubuntu, Java and Hadoop
- Modern C++
- Introduction to Data Science using Python and scikit-learn

Education | Brasov, Romania

14 JUL 2015 – 28 OCT 2017
COMPUTER PROGRAMMER – GENERAL MAGIC TECHNOLOGIES (FOMER ROUTE 66)

Worked on the engine, the server, and the elevation data builder behind the Magic Earth app.
Main language used is C++, but also used HTML and JS for the web services and OpenGL ES 2 for rendering.
My work involved creating new content for both server and engine, optimizing the existing code and designing a new architecture for the engine which handles data acquisition, loading, caching and rendering for the map layers.

Brasov, Romania

EDUCATION AND TRAINING

2 OCT 2017 – CURRENT – Brasov, Romania
DOCTORATE OF PHILOSOPHY (PHD) IN INFORMATICS – Transilvania University

Topic: Machine Learning Models in Cancer Prediction

EQF level 8

22 JUL 2019 – 26 JUL 2019
MACHINE LEARNING AND APPLICATIONS SUMMER SCHOOL – Transilvania University of Brasov (Romania) in collaboration with CWU (USA) and UP13 (France)

https://mlass.unitbv.ro/

OCT 2015 – JUL 2017 – Brasov, Romania
MODERN TECHNOLOGIES IN SOFTWARE ENGINEERING / MASTER – Transilvania University

- Algorithms in Combinatorial Optimization
- Web Design using PHP (Symphony framework) and MySQL
- Architecture of Enterprise Applications using C# (.NET Platform). Covered also Entity Framework, unit testing, code styling and formatting.
- Object-Relational Mapping using Java (EJB for backend and JSF for frontend)
- Distributed Computing using Java
- Software and Hardware Rendering using C++ and OpenGL
- Programming for Mobile Devices (Android and iOS)
- Logic Programming using Prolog
- Functional Programming using Haskell
- Cloud Computing: evolution of network services in large scale applications, programming in Hadoop environment and programming of the Gossip protocol

My dissertation project was in the field of Artificial Intelligence. I applied a Reinforcement Learning algorithm known as Q-learning for a variety of 2 player board games like X and 0, Chung Toi or The nine men's morris. The results were great: an AI player with no initial knowledge learned to be unbeatable in worst case (as all the games were zero-sum games) or beat any other player that was weaker than perfect, in relatively small amount of time, with no human supervision, learning only from experience gained from previous matches.

EQF level 7

OCT 2015 – JUL 2016 – Brasov, Romania
TEACHING STAFF TRAINING DEPARTMENT LEVEL 2 (RO.: DEPARTAMENTUL PENTRU PREGATIREA PERSONALULUI NIVELUL 2) – Transilvania University

- Psychology
- Education
- Teaching practice at high school (at Colegiul National Áprily Lajos , Brasov)

OCT 2012 – JUL 2015 – Brasov, Romania
APPLIED INFORMATICS - DEGREE IN INFORMATICS / BACHELOR – Transilvania University

- English and German foreign languages
- Algebraic Foundations of Computer Science
- Mathematical Analysis
- Analytical Geometry
- Differential Equations and Dynamical Systems
- Algorithms
- Data Structures
- Computer Architecture, binary logic and assembler programming
- Operating Systems (Windows and Linux)
- Procedural Programming using C
- Object Oriented Programming using C++
- Object Oriented Programming using Java
- Graph Algorithms
- Formal Languages
- Visual Programming using C# and Windows Forms
- Visual Programming using C++ and MFC
- Computer Networks
- Computational Intelligence (machine learning algorithms)
- Computer Graphics (2D, 3D, spline and surface rendering)
- Digital Image Processing
- Computer Security
- Web Design using PHP, MySQL, HTML, JS
- Data Mining using Weka
- Distributed Computing using Java

For my bachelor project I took a step further in graphics programming, learned OpenGL 2.1 and made a 3D graphic engine which featured: terrain rendering, lighting and texturing based on height; sky dome with realistic colors for sunset and sunrise; sun rendered as billboard; ocean with moving waves; thousands of tree, grass and rock models rendered over the terrain; static and skeletal animation for models.

EQF level 6

OCT 2012 – JUL 2015 – Brasov, Romania
TEACHING STAFF TRAINING DEPARTMENT LEVEL 1 (RO.: DEPARTAMENTUL PENTRU PREGATIREA PERSONALULUI NIVELUL 1) – Transilvania University

- Psychology
- Education
- Teaching practice at high school (at Colegiul National Andrei Şaguna , Brasov)

AUG 2014 – SEP 2014 – Brasov, Romania
INTERNSHIP – Route 66

- Data structures, algorithms, optimisation and profiling in C++
- 2D and 3D graphics with OpenGL 1

Coordinated a team of 5 members for 2 weeks on a project called Tampa Taxi (a GTA like game, on the map of Brasov), and won the first place with my team

APR 2014 – JUN 2014 – Brasov, Romania
BIG DATA WITH HADOOP – Transilvania University in cooperation with Route 66

- Java programming in depth
- setup Hadoop on Linux machines
- developed applications that run on the Hadoop ecosystem

At the contest organised at the end of the course I won the second place.

MAR 2014 – JUN 2014 – Brasov, Romania
C++ COURSE – Transilvania University in cooperation with Siemens Industry Software România

- Source control with Mercurial
- Debugging in Visual Studio
- Worked with the C++ wxWidgets library
- Unit testing with Google Test for C++ applications
- Framework and Plugin concepts (plugins as dlls)
- Learned about sounds and generating of sounds with Port Audio
- Learned scripting languages: Batch, CMake, Inno Setup

At the contest organised at the end of the course I won the first place.

NOV 2013 – FEB 2014 – Brasov, Romania
PARALLEL PROGRAMMING COURSE – Transilvania University in cooperation with Rosoftlab

- Worked with threads in C++ using multiple libraries: pthreads, mpi, omp
- Learned the basics of GPU architecture and computing and made implementations using CUDA

LANGUAGE SKILLS

Mother tongue(s): **HUNGARIAN**

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
ROMANIAN	B2	B2	B2	B2	B2
ENGLISH	B2	B2	B2	B2	B2
GERMAN	A1	A1	A1	A1	A1

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

HONOURS AND AWARDS

Honours and awards

- 2nd place at Hevesy György Chemistry Competition (Transilvanian phase) - Sibiu, 2008
- 3th place at Sesiunea de comunicari științifice a studenților (informatics) - Brasov, 2013
- 1st place at the 'C++ Course' - Siemens (SISR) Brasov, 2014
- 2nd place at the 'Big data with Hadoop' - Route 66 Brasov, 2014
- 1st place at IBM Hackathon - Bucuresti, 2014
- 1st place at International Conference on Applied Informatics ICDD - Sibiu, 2015

ORGANISATIONAL SKILLS

Organisational skills

leadership (led a rock band for more than 6 years and also proved on the internship), organizational skills and team-leading skills gained from teaching practice (taught 30 students at school on several classes) and gained through teaching hungarian folk dance (for more than 50 teenagers at the same time)

COMMUNICATION AND INTERPERSONAL SKILLS

Communication and interpersonal skills

good communication skills gained from teaching practice and through my experience as hungarian folk dance teacher