



Szabolcs Pável

WORK EXPERIENCE

[07/2014 – 09/2014]

Technology Intern

Morgan Stanley Hungary Analytics Ltd.

City: Budapest | **Country:** Hungary | **Name of unit or department:** Strats and Modeling

Implementing financial valuation algorithms in C++.

Building efficient caching structure to allow real-time update of the prices of financial products.

[07/2015 – 09/2015]

Technology Intern

Morgan Stanley Hungary Analytics Ltd.

City: Budapest | **Country:** Hungary | **Name of unit or department:** Strats and Modeling

Performance optimization of C++ financial valuation algorithms.

[12/2015 – 09/2017]

Working Student

Robert Bosch SRL

City: Cluj-Napoca | **Country:** Romania

[09/2017 – 03/2021]

PhD Student

Robert Bosch SRL

City: Cluj-Napoca | **Country:** Romania

[03/2021 – Current]

Machine Learning Engineer

Robert Bosch SRL

City: Cluj-Napoca | **Country:** Romania | **Name of unit or department:** Advanced Driver Assistance Systems / Computer Vision

Deep learning, neural network architectures, multi-task learning, deployment on embedded systems

[03/2021 – Current]

Teacher Assistant

Babes-Bolyai University

City: Cluj-Napoca | **Country:** Romania

Courses: Deep Learning

Seminars/Laboratories: Logic and Functional Programming, Practical Problems of Operating Systems, Advanced Functional Programming, Introduction to Machine Learning, Computer Architectures

EDUCATION AND TRAINING

[2012 – 2015]

Bachelor of Science

Babes-Bolyai University

| **Final grade:** 9.96 | **Thesis:** Parallelization of Simulations on CPU

In my thesis work I studied modern parallel architectures, analyzed parallel algorithms and data structures, implemented molecular dynamics simulations using the Intel SPMD Program Compiler, optimizing the code for efficient use of the multiple cores and SIMD units of the CPU. Thesis work presented on 18th Transylvanian Students' Scientific Conference, Computer Science and Mathematics section, awarded 1st prize.

[2015 – 2017] **Master of Science**

Babes-Bolyai University

| **Final grade:** 10 | **Thesis:** Direct Visual Odometry

In my thesis I studied the direct class of visual odometry algorithms - a method that allows a robot to position itself relative to a starting point using an image sequence from a camera mounted on the car. The thesis was written during my internship at Robert Bosch Engineering Center Cluj.

[2017 – Current] **PhD**

Babes-Bolyai University

PUBLICATIONS

[2019] **[Single View Distortion Correction using Semantic Guidance](#)**

Reference: SB Lőrincz, S Pável, L Csató.

In 2019 International Joint Conference on Neural Networks (IJCNN)

[2019] **[Distortion Estimation Through Explicit Modeling of the Refractive Surface](#)**

Reference: S Pável, C Sándor, L Csató

In Artificial Neural Networks and Machine Learning – ICANN 2019: Image Processing, pages 17–28.

[2020] **[An Ellipsoid Object Model of the Refraction Surface](#)**

Reference: S Pável

In Proceedings of the 11th International Conference on Applied Informatics (ICAI), volume 2650, pages 272–279. CEUR Workshop Proceedings.

[2020] **[Pruning CNN's with Linear Filter Ensembles](#)**

Reference: C Sándor, S Pável, L Csató

In Frontiers in Artificial Intelligence and Applications, Volume 325: ECAI 2020, pages 1435-1442.

[2020] **[The ClujUAV student competition: A corridor navigation challenge with autonomous drones](#)**

Reference: C Sándor, S Pável, E Wieser, A Blaga, P Boda, AO Fülöp, A Ursache, A Zöld, A Kopacz, ..., L Tamas

In IFAC-PapersOnLine, Volume 53, Issue 2, pages 17511-17517.

[2022] **[Neural Network Pruning based on Filter Importance Values Approximated with Monte Carlo Gradient Estimation](#)**

Reference: C Sándor, S Pável, L Csató

In Proceedings of the 17th International Joint Conference on Computer Vision, Imaging and Computer Graphics Theory and Applications, Volume 5 VISAPP: VISAPP, pages 315-322.

[2023] [Comparative Study of Interpretable Image Classification Models](#)

Reference: A Bajcsi, A Bajcsi, S Pável, Á Portik, C Sándor, A Szenkovits, O Vas, Z Bodó, L Csató

In INFOCOMMUNICATIONS JOURNAL, 15 (SI). pages 20-26.