Dávid Komorowicz
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Work Experience

Game Developer - Founder's Fortune, Infra Space (Unity, C#, HLSL) **Munich**, 04/2020 -

Machine Learning Research Engineer - Robert Bosch Hungary, 2018 - 03/2020

High School Lecturer (one of the top 10 high schools in Hungary) 2014 – 2018
I taught extracurricular classes about Arduino, Android, and Computer Graphics (YouTube).

Computer Vision Intern - Atmo (projectatmo.com) 03/2016 – 10/2016
Augmented Reality board gaming platform. Developed a real-time dice detector. Created a calibration tool for a fish-eye camera & projector system. (OpenCV, Python, Raspberry Pi)

University Projects

Vision Based Navigation Practical Course, Winter 2022
Implemented loop closure in SLAM system using Bag of Words matching
(C++, Eigen, Ceres, OpenGV, CMake)

Advanced Deep Learning for Computer Vision, Summer 2021
Investigated ways to extend NeRF to work with unknown camera poses using feature losses (VGG perceptual loss, contextual loss). We show that the perceptual loss can improve camera pose registration on LLFF scenes. (Pytorch Lightning)

3D Scanning & Spatial Learning Practical Course, Winter 2020
Investigated the generalization capabilities of IF-Nets when trained on synthetic human dataset to real 3D scans from Kinect. Created dataset from Mixamo models. (MeshLab)

Personal Projects

3D Reconstruction of Historic Buildings (youtu.be/bN3jy_YElcE), on hold
Reconstructing demolished historic buildings using surviving (100-200) photos using NeRF-W and neural feature matching (DISK/SuperPoint).

HandVR - B.S. Thesis (github.com/Dawars/handvr) – 02/2019
Increasing immersion in VR through personalized hand models from a single 2D photo using Deep Learning. Created training data by combining multiple data sources. Modified existing research to fit hand data. (PyTorch, Tensorboard, Docker)

Minecraft game extension. Independent, 2012 – 2015
Launched 4 Minecraft extensions with 450 000+ downloads in a team of 3. Developed procedural world generation algorithms. Implemented Marching Cubes algorithms for fluid visualization. Managed development, gameplay, and marketing. (Java, OpenGl)

Open Source contributions

- ONNX-CoreML converter - Fix upsample operator (#372)
- PyTorch - Mesh/Point Cloud support for TensorBoard (#20413)
- PyTorch Cluster - Fix broken PyTorch dependency (#23)
- LibRaw - Updated to support modern CMake and use as submodule (#16)
- MPI-IS Mesh Processing Library - Python 3 compatibility (#8)
- Convolutional Mesh Autoencoders - Python 3 compatibility (#14)
- Fixing Three.js code sample (#14014)
- Docker image for reproducible research (#19)
- Ninja Ripper 3D Studio Max importer UV Quadrant fix (#1)

Education

Technische Universität München, Germany 04/2020 –
M.S. in Informatics with specialization in Computer Vision.

Budapest University of Technology and Economics, Hungary – 02/2019.
B.S. in Computer Engineering.

Karlsruhe Institute of Technology, Germany 09/2017 – 02/2018.
Education abroad, Erasmus Program.

Associate Android Developer Certified (github.com/Dawars/PopularMoviesApp**) 2017**
Developed and designed a *Popular Movies* app with modern methodologies. The app progressively loads and caches data from a web API into an infinitely scrollable grid.
https://www.credential.net/225fd457-8cee-4345-b2c3-a6b7b8768d0a

Languages

- English - advanced (C1)
- German - advanced (C1)
- Japanese - elementary

Activities and Awards

GDC 2019 scholarship for CEE developers, National Talent Scholarship 2017, GDD Europe 2017 scholarship for Android devs, Kitchen Budapest: Talent Mentoring Program 2016, Scientific and Innovation Talent Contest for Youth 2014 semi-finals, BeeSmarter Android Developer contest 1st place 2014

Hobbies

Music Theory, Vintage Lens Photography, Learning Languages, Ballroom Dancing, Hiking