Lukas Uzolas

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EDUCATION

M.Sc. | **Image Processing and Computer Vision**   Sep. 2019 – Sep. 2021

PPCU, UAM, UBx   Hungary, Spain, France

- Fully funded Erasmus Mundus Joint Master Degree at the University of Bordeaux, Autonomous University Madrid, and Pázmány Péter Catholic University
- Thesis written at VCG SEAS, Harvard University
- Thesis topic: Meta-Learning for Domain Generalization with Style-based Parameter Prediction in Biomedical Image Segmentation [thesis]
- Graduated with an equivalent of first-class honours and distinction (4.97/5)

B.Sc. | **Human-Computer-Interaction**   Oct. 2015 – Jun. 2019

University of Hamburg   Hamburg, Germany

- Fundamentals of computer science and psychology
- Active participation in the faculty as a student representative, hosting of events, and tutoring during the introduction week
- Thesis Topic: Evaluation of Grayscale Hand Gesture Segmentation with Fully Convolutional Neural Networks [thesis]
- Graduated with an equivalent of first-class honours and an outstanding degree (best of cohort)

EXPERIENCE

Master Thesis Research Intern (Remote)   Feb. 2021 – Jun. 2021

VCG SEAS, Harvard University   Boston, USA

- Reseach internship to conduct my Master's thesis at Hanspeter Pfisters' Visual Computing Group, Harvard University under the supervision of Donglai Wei
- Image segmentation involving generative models and Domain Generalization with PyTorch and Tensorflow
- Due to the ongoing Covid19 pandemic, conducted remotely

Research Intern   Jul. 2020 – Sep. 2020

Medic   Madrid, Spain

- Research and implementation of algorithms extracting features of the eyes from high speed cameras with Matlab

Working Student Backend Development   Oct. 2018 – Feb. 2019

BOOM GmbH   Hamburg, Germany

- Web development in a diverse team and fast-paced environment
- Responsible for conceptualization and implementation of Backend applications with Node.Js, Alexa, AWS, Python, Linux, REST APIS, and data visualization libraries

Project, Working Student Fullstack Development   Feb. 2018 – Jul. 2018
Daimler AG   Stuttgart, Germany
  - Conceptualization of two intelligent car configurator Proofs-of-Concept for smart and Vans involving a chatbot based on IBM Watson
  - Responsible for software architecture and implementation of the Backend in NodeJs
  - Presentation of Proof-of-Concept on the Mobile World Congress 2018 in Barcelona

Working Student Fullstack Development   Oct. 2017 – Jan. 2018
Senacor Technologies   Hamburg, Germany
  - Agile Development of software for internal use in the company
  - Programming with JavaScript, Vue.Js, C#, and MySQL

Student Supervisor in Software Development   Oct. 2016 – July. 2017
University of Hamburg   Hamburg, Germany
  - Supervision and examination of student's homework and preparation of educational materials
  - Teaching Object-oriented programming with Java, BlueJ, and Eclipse to students

Awards and Honours

M.Sc. Honours Degree (Distinction)   Sep. 2021
Honours degree by the Pázmány Péter Catholic University, grade: 4.97/5.

Erasmus Mundus Master Scholarship   Sep. 2019
Fully funded graduate studies, with an acceptance rate below 5 percent

Outstanding B.Sc. Degree in Human-Computer-Interaction   Jun. 2019
Best HCI degree in the summer semester of 2019 according to GPA

Publications

Deep Anomaly Generation: An Image Translation Approach of Synthesizing Abnormal Banded Chromosome Images, arXiv 2021.
Lukas Uzolas*, Javier Rico*, Pierrick Coupé, Juan C. SanMiguel, and György Cserey
*: first authors, [**arXiv**]
(In review)

Scale & Walk: Evaluation of scaling-based interaction techniques for natural locomotion in VR, Mensch und Computer 2018.
Boysen, Yannic*; Husung, Malte*; Mantei, Timo*; Müller, Lisa-Maria*; Schimmelpfennig, Joshua*; Uzolas, Lukas*; Langbehn, Eike;
*: equal contribution, [**paper (German)**]
Original title (German): Evaluation von skalierungsbasierten Interaktionstechniken zur natürlichen Fortbewegung in VR

Conference Participations

Conference on Computer Vision and Pattern Recognition   2021
Student Participant

European Conference on Computer Vision   2020
Student Participant

Mensch und Computer   2018
Author and Student Volunteer

Additional Relevant Projects

Face Manipulation through Projection of Facial Landmarks   2021
- Projection of facial landmarks into pre-trained StyleGAN2 latent space and FAN with PyTorch [github]

Banded Chromosome Segmentation Mask Generation   2020
- Banding pattern extraction repository for Deep Anomaly Generation, written in Python and OpenCV. Can be used as a Python package or via command line [github]

3D Reconstruction of a Scene Through Multiple Images   2020
- Implementation and report of a whole 3D reconstruction pipeline of a natural scene. The report received the highest grade in the cohort [report]

Object Tracking/Localisation with the Kalman Filter   2020
- Implementation of object tracking with the Kalman filter in C++ [gitfront]

Replication-Study & Extension of PerceptionNet   2019
- Implementation and replication studiy of of PerceptionNet in Keras. Human activity classification based on temporal multimodal. [github] [report]

Extracurricular and Volunteering

Class Representative   2019 - 2021
M.Sc. Image Processing and Computer Vision   Hungary, Spain, France
- Organisation and communication between students and university entities

Voluntary Tutor   Aug. 2018 - Jul 2019
Fördern und Wohnen   Hamburg
- Tutoring children from refugee families in maths, German, and English.

Organisation of Faculty Events   Oct. 2015 - Jun. 2019
University of Hamburg   Hamburg
- Actively participated in the student-faculty by co-organizing the introduction week three years, and hosting different faculty events such as the yearly Christmas celebration and hackathons (German)

Skills

Languages: German (Native), English (C1), Lithuanian (B2), Spanish (A2)
Programming: Python, Javascript, Node.Js, Java, MATLAB, C++ (Beginner), Databases, Web Development, Rest APIs
Frameworks: OpenCV, PyTorch, Keras, Tensorflow v.1, Scikit, Numpy, Matplotlib
Tools: Git, Linux, Windows, LaTeX, Command Line
Soft Skills: Teamwork, Self-organised Working, Presenting, Adaptability, Teaching, Organisation, Scientific Writing, Clear Communication

Hobbies

Sports: Jogging, Tennis, Hiking, Snowboarding
Creative Programming: Sinus Waves, Dancing Deers, Games involving my cousins
Board Games, Pen and Paper