

Daniyar TURMUKHAMBETOV

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Current Position

Post-doctoral Research Associate Jan. 2016 - Present
University College London London, UK

Area: Computer Vision and Computer Graphics.

Research Projects: “FuSe - Technologies For Bioacoustic Sensing” (NERC project for automated large-scale bat species monitoring from ultra-sound recordings)
“Nature-Smart Cities - Sensing Nature in the Queen Elizabeth Olympic Park” (EPSRC Impact project that develops automatic bat monitoring for conservation using ultra-sound recordings of bats and machine learning algorithms for bat call detection and species classification on embedded devices) and “Capture-Reconstruct-Play” (funded by EU-FP7, investigates and develops novel computer vision and computer graphics techniques for videogames development).

Supervisors: Dr. Gabriel Brostow and Prof. Kate Jones.

Publications

Interpretable Transformations with Encoder-Decoder Networks

Daniel E. Worrall, Stephan J. Garbin, Daniyar Turmukhambetov, Gabriel J. Brostow
In Proceedings of The IEEE International Conference on Computer Vision (ICCV), 2017

Harmonic Networks: Deep Translation and Rotation Equivariance

Daniel E. Worrall, Stephan J. Garbin, Daniyar Turmukhambetov, Gabriel J. Brostow
In Proceedings of The IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2017

Help, It Looks Confusing: GUI Task Automation Through Demonstration and Follow-up Questions

Thanapong Intharah, Daniyar Turmukhambetov, Gabriel J. Brostow
In Proceedings of ACM Intelligent User Interfaces (IUI), 2017

Modeling Object Appearance using Context-Conditioned Component Analysis

Daniyar Turmukhambetov, Neill D.F. Campbell, Simon J.D. Prince, Jan Kautz
In Proceedings of The IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2015

Interactive Sketch-Driven Image Synthesis

Daniyar Turmukhambetov, Neill D.F. Campbell, Dan B Goldman, Jan Kautz
Computer Graphics Forum, 2015

Past Work Experience

Research Intern 2012
Adobe Seattle, WA, USA
Worked with Dr. Dan B Goldman at Creative Technologies Lab. The research was on interactive system that assists users in drawing and painting photorealistic images of objects with real-time feedback.

Lab Demonstrator 2011 - 2012
University College London London, UK
Lab demonstrator for “Mathematical Models, Algorithmics and Implementations” course and “Machine Vision” course.

Teacher 2009 - 2010
International IT University Almaty, Kazakhstan
Developed and implemented weekly laboratory assignments for “Algorithms and Programming Languages” course, administered exams and analysed student performance.
Taught laboratory classes for 4 groups. Tutored 1 group.
As part of high school students outreach program, taught “Introduction to IT” to 3 groups of high school students during summer. The course was mainly about programming in Java and developing simple games using “Greenfoot” framework.

Software Developer 2010
NITEC laboratory at International IT University Almaty, Kazakhstan
Developer on laboratory team responsible for eAkimat project assigned by National Information Technologies organization (NITEC). eAkimat is a web portal for state and local government representatives to allow citizens to use services provided by local government through internet.
Duties included developing services for eAkimat using C#(ASP.NET), Javascript(Coolite+ExtJs), MS SQL Server, NHibernate.

Education

PhD in Computer Science 2011 - 2016
University College London London, UK
PhD Thesis: “Synthesizing and Editing Photo-realistic Visual Objects”
Supervisors: Prof. Jan Kautz and Dr. Simon J.D. Prince.
Collaborator: Dr. Neill D.F. Campbell
Area: Computer Vision and Computer Graphics.
Studentships from EPSRC and Faculty of Engineering of University College London.

MSc in Computer Graphics, Vision and Imaging 2010 - 2011
University College London London, UK
Master’s Thesis: “Intrinsic Images from Color and Depth” supervised by Dr. Gabriel J. Brostow.
Graduated with Distinction. The thesis won “BBC Best Project Prize”.

B.Eng. in Computer Science and Technology 2005 - 2009
Tsinghua University Beijing, China

Bachelor's Thesis: "Depth Estimation from Multi-view Video"

Language of Instruction: Mandarin Chinese.

Chinese Language Course
Beijing Foreign Studies University

2004 - 2005
Beijing, China

HSK Level: 6

Honors and Awards

2011-2015 UCL Faculty of Engineering Postgraduate Research Scholarship.

2011-2015 EPSRC Studentship.

2011 "BBC Best Project Prize" for the MSc Thesis.

2004–2009 "Chinese National Petroleum Corporation" Scholarship.

2004 "Altyn Belgi" honours award

2003 Third degree award in Republic Science Projects Competition among High School Students in Mathematics. (Also, third degree award in Almaty Science Projects Competition among High School Students in Mathematics)

2003 Participant of Republic High School Students Olympiad in Mathematics. (Also, First degree award in Almaty High School Students Olympiad in Mathematics.)

2002 Participant of Republic High School Students Olympiad in Mathematics. (Also, First degree award in Almaty High School Students Olympiad in Mathematics.)

Skills

Machine Learning: Deep Learning, Convolutional Neural Networks, Variational Autoencoders, Probabilistic Linear Models, Random Forests, Gaussian Processes

Programming Languages, Libraries and Frameworks: Python (numpy, scipy, tensorflow), Matlab (Octave), C/C++ (Qt, CUDA), \LaTeX

Languages: Kazakh(native), Russian(native), English(fluent), Mandarin Chinese(proficient), Turkish(proficient)

References

Dr. Gabriel J. Brostow

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Prof. Jan Kautz

Mobile Visual Computing Research
NVIDIA, Boston, MA, USA
E-mail: j.kautz (at) ucl.ac.uk

Dr. Neill D.F. Campbell

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University of Bath, Bath, UK
E-mail: n.campbell (at) bath.ac.uk

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