Rinat Abdrashitov

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Dynamic Graphics Project Lab
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INTERESTS

Geometry Processing
Facial and Body Animation
Geometric Deep Learning
GPU programming
3D user interface design

EDUCATION

University of Toronto (Toronto, Canada) Jan. 2016 – present
4th year PhD, Computer Science

University of Toronto (Toronto, Canada) Sep. 2013 – Jan 2015
Master of Science, Computer Science

University of Toronto (Toronto, Canada) Sep. 2008 – June 2012
Honours Bachelor of Science with Distinction, Computer Science

PROFESSIONAL EXPERIENCE

Sidefx Software (Toronto, Canada) May. 2019 – present
Research Engineer

- Worked on non-rigid registration algorithms for deforming template geometry to mesh scans.
- Wrote a production ready non-linear least squares solver.
- Gained experience working with a large existing codebase.
- The result of the work has been shipped in Houdini 18.5 as a TopoTransfer SOP Node.

Adobe Research (San Jose, California) Jun. 2017 – Aug. 2017
Research Intern

- Worked on applying 12 traditional principles of animation to videos of human faces to achieve a stylized effect.
- Developed image warping and signal processing algorithms.

Conceptualiz Inc. (Toronto, Canada) Feb. 2015 – Jan. 2016
Software Developer

- Built an iOS tablet application from ground up that allows orthopedic surgeons to perform pre-operative planning in 3D environment.

- Developed a custom real time rendering engine, using OpenGL and C++, to render high-resolution polygonal models of bone tissue on mobile GPU.
- Created a set of tools to edit and transform polygonal meshes of bone tissue, import and design implant models to reflect the workflow of orthopedic surgeons.

XtremeLabs Inc. (Toronto, Canada) Sep. 2012 – June 2013
Software Developer

- Developed high profile iOS applications starting from the concept to submitting the finished product to the App Store. Clients included Bell, Mountain Equipment Co-op and The Globe and Mail.
- Gained extensive experience in objective-oriented programming using Objective-C, Java and Cocoa toolkit.
- Worked effectively with QA team to resolve any technical issues and bugs of the application.

RESEARCH EXPERIENCE AND PUBLICATIONS

Interactive exploration and refinement of facial expression using manifold learning.
User Interface Software and Technology 2020
Rinat Abdrashitov, Fanny Chevalier, Karan Singh

A System for Efficient 3D Printed Stop-Motion Face Animation.
ACM Transactions on Graphics (accepted with minor revisions)
Rinat Abdrashitov, Alec Jacobson, Karan Singh

Interactive Shape Modeling using a Skeleton-Mesh Co-Representation.
Siggraph 2014
J. Andreas Bærentzen, Rinat Abdrashitov, Karan Singh.

Mosaic: Sketch-based interface for creating digital decorative mosaics. ***(Best paper award)*.**
International Symposium on Sketch-Based Interfaces and Modeling 2014
Rinat Abdrashitov, Eric Yao, Emilie Guy, Karan Singh.

TECHNICAL SKILLS

C++, C, Python, Unix Shell, Matlab, OpenGL, GLSL, NumPy, Maya C++/Python API, Houdini.

PATENTS

System and Method for Interactive 3D Modeling of Surgical Implants (US Patent filed 2015).
Richard Hurley, Rinat Abdrashitov, Karan Singh, Ravin Balakrishnan, James McCrae

TEACHING EXPERIENCE

- Computer Graphics (CSC418), University of Toronto
- Software Tools and Systems Programming (CSC209), University of Toronto
- Software Design (CSC207), University of Toronto