Aneta Texler

Personal Data

Place of stay: San Jose, California, USA
Date of birth: 3rd June 1992
E-mail: aneta.texler@gmail.com
Nationality: Czech
LinkedIn: https://www.linkedin.com/in/aneta-texler
Web: https://anetatexler.github.io

Education

Master degree study (MSc) **9/2017 – 6/2019**
Computer Science, Faculty of Information Technology, Czech Technical University in Prague.
Master Thesis: Example-based Style Transfer to Facial Animations on Mobile Devices.

Bachelor degree study (BSc) **9/2011 – 6/2017**
Computer Science, Faculty of Information Technology, Czech Technical University in Prague.
Bachelor Thesis: Feasibility Study of Biometric System Implementation in Business.

Professional Experience

Research Engineer, CTU in Prague, Czechia **7/2019 – 2/2021**
Research & Development. Working on several computer graphics research projects resulting in two publications; focused mainly on texture synthesis and style transfer. Developing algorithms in C++, and a prototype mobile application for Android in Java. Participating in writing of technical papers.

Data Specialist, CRIF - Czech Credit Bureau a.s, Prague, Czechia **8/2016 – 6/2019**
Software & Database Development. Developing web scrapers in C#, parsing and importing obtained data into a database. Writing SQL scripts, designing databases, working in Visual Studio and SQL Server Management Studio.

Journal Publications

A. Texler, O. Texler, M. Kučera, M. Chai, and D. Sýkora: **FaceBlit: Instant Real-time Example-based Style Transfer to Facial Videos.** In *Proceedings of the ACM in Computer Graphics and Interactive Techniques, 4(1)* (I3D'21, April 2021)

F. Hauptfleisch, O. Texler, **A. Texler**, J. Křivánek, and D. Sýkora: **StyleProp: Real-time Example-based Stylization of 3D Models.** In *Computer Graphics Forum, 39(7):575–586* (PG'20+21, Wellington, New Zealand, 2021)

Computer Science & Programming Skills

C/C++	Desktop and Android, OpenCV, Dlib, STL, OpenMP, MPI
C#	.NET Framework, LINQ, Entity Framework, ASP.NET
Python	Web crawling, data mining, machine learning, scikit-learn, Pandas, NumPy, OpenCV
Java	Desktop and Android, NDK, JNI
Web	HTML, CSS, JavaScript, Bootstrap, Angular, ASP.NET, REST API
Research & Development	Conducting research, publishing of scientific papers
Computer Graphics / Vision	Style transfer, face detection, OpenCV
Software Development	UML, database model, SW development methodologies
Architecture & Design Patterns	OOP, creational, structural, and behavioral design patterns, architectural styles
Problems & Algorithms	Time and space complexity, P/NP classes, NPC/NPH problems, simulated evolution, data structures, recursion, inheritance, polymorphism

Data Science	Data preprocessing, dimension reduction, data mining, machine learning, visualization, Tableau
Web Data Mining	Web content mining (NLP, document indexing and information retrieval), web structure mining (crawling, PageRank, HITS, parsing), web usage mining (user behavior, opinion mining)
Database systems	Relational, object-relational, distributed, NoSQL, and graph databases, data warehouses
Parallel & Distributed Programming	OpenMP, threads, task and data parallelism, MPI, processes, interconnection networks of parallel computers
GPU Parallelism	OpenACC, CUDA
Version Control	Git, SVN

Selected Projects

FaceBlit [Java, C++]
My master thesis extended to a paper. It is a mobile application for Android that allows instant style transfer from a given static style exemplar to facial videos in real-time. A face is captured by a mobile device camera and a result is shown on the display. The UI is developed in Java and the whole style transfer logic is written in C++; JNI connects the frontend and backend.
See more at Project Page

StyleProp [C#, HLSL]
Transferring a style from a 2D hand-drawn image to a 3D model in real-time. My main contribution was an upsampling method accelerated on a GPU that increases resolution and quality of the result.
See more at Project Page

Edge Detector [C++, CUDA]
Canny algorithm, parallel implementation in OpenACC and CUDA.

Overfitting Problem [Python]
Implementation of kNN and RBFN from scratch and their analysis in terms of overfitting. Testing different methods to prevent overfitting.

MVC Game [Java]
MVC architecture, used patterns: Strategy, Proxy, State, Visitor, Observer, Command, Memento, Abstract factory; unit testing, mocking.

Knapsack Problem - solved by various algorithms [C#]
Brute force, simple heuristic, dynamic programming, branch & bound, FPTAS algorithm, simulated evolution.

Chess - knight captures all pieces in a minimal number of moves [C++]
Sequential (branch & bound, DFS) and parallel (OpenMP - task and data parallelism, MPI - processes, master-slave) implementation.

Image Similarity [C#]
Web application in ASP.NET MVC Framework for searching similar images based on their histograms.

Cookbook Web Application [C#]
ASP.NET MVC, REST API, Entity Framework, LINQ, Angular.