

Aneta Texler

PERSONAL DATA

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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 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. Krivánek, 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.