

DAVID HRUSA

Bringing complex software systems to artists and non-programmers



Master of Computer Science



Prague, Czechia



<https://portfolio.pansyn.com/>



(+420)-723-899-370



hrusadav@gmail.com



<https://www.linkedin.com/in/davidhrusa/>

SKILLS



- | | | |
|----------|-----------|-----------------|
| ■ C++ | ■ CUDA | ■ Unity 5 |
| ■ JS | ■ OpenGL | ■ Unreal Engine |
| ■ C# | ■ WebGL | ■ Adobe suite |
| ■ Java | ■ GLSL | ■ 3dsMax |
| ■ Python | ■ SQL | ■ Blender |
| | ■ SVN/Git | ■ Clip Studio |

EDUCATION



Purdue University – Dept. Computer Graphics Technology, Master of Computer Science [May 2021]

Thesis: Perceived Realism Metric in Botanical Trees

Supervisor: Bedrich Benes Ph.D

High Performance Computer Graphics Laboratory

Czech Technical University in Prague, [June 2018]

Bachelor of Computer Science

Thesis: Interactive Erosion

<https://github.com/avatarxargo/Interactive-Erosion/>

Supervisor: Bedrich Benes Ph.D

Minors: Computer Graphics for Programmers, Games and Multimedia

Additional relevant subjects: Artificial Intelligence, Visual Art, Graphics Programming

PUBLICATIONS



Siggraph Asia 2021 – ICTree [May 2021]

Automatic Perceptual Metrics for Tree Models

GPU CUDA computations / rendering, 3D interaction

PROJECTS



H.E.A.R. – Shader driven horror game [Unreal Engine] <https://portfolio.pansyn.com/#ripple> [2021]
Developed a rendering system with tools integrated into the workflow of a team of 3 level designers.

Hex Harvest– AR tile-based board game [Unity] <https://portfolio.pansyn.com/#hex> [2021]
Developed a scalable game state system later integrated with a range of input methods provided by other developers. Coordinated art direction and provided customized tools to members.

Silhouette Line Shader– Stylized mesh renderer using advanced compute shaders and unusual render pipeline to achieve artistic effect. [C++, OpenGL] [2020]

Celery Bog 3D Map– Interactive online GPS map, guide & wiki [WebGL, JavaScript, PHP] [2019]
Provided a server system with admin access for an interactive phone map in cooperation with Lafayette park authorities. Conducted area scanning and test trials. Online demo: <https://pansyn.com/map2/>

Rika Engine [Java, C++] <https://portfolio.pansyn.com/#rika> [2016-2019]
Profiled an object driven bullet hell game engine with cutscene and scripting editor across multiple platforms.

Tower of Ions [Unity] <https://portfolio.pansyn.com/#toi> [2018]
Coordinated a team of four to develop a parkour puzzle platformer with AI companion.
Prepared a demo showcase for industry professionals.

ToyCar Racers [JavaScript, WebGL] <https://portfolio.pansyn.com/#toyCar> [2017]
Lead a team of three to develop a WebGL racing game with custom JavaScript physics engine and multiplayer.

Teaching [Purdue/Priv. Instructor] C++, web design, game dev, data viz, illustration, art theory [2010-2021]
Experienced with a wide range of learners (elementary school – teenagers – university – adults). Tasked with putting together curriculum and study materials as well as individualized study plans. Focused on teaching principles and encouraging independent growth.

Tokens for MTG – Commercial merchandise and illustration [2015-2018]
Coordinated with a printing company and designed layout to complement established game frames.