

Bendik Arbogast

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Education	09/2013 - 07/2019	Gymnasium in der Taus, Backnang
	09/2019 - 07/2022	Gewerbliche Schule Backnang <ul style="list-style-type: none">▪ Technisches Gymnasium with focus on Computer Science▪ Abitur (Germany): GPA 1,4 with 764 / 900 credits
	08/2022 - Present	ETH Zürich - BSc Computer Science

Certificates	10/2021	CS50x Introduction to Computer Science HarvardX/EdX. Online
	06/2019	DELFI certificate B1 Institut français d'Allemagne

Experience	12/2023 - Present	Self-employed Designed and developed an automation solution for a larger Zurich-based business in construction. (details disclosed due to NDA)
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Expertise

Web Development

- Designed and developed a web-based custom automation solution for a client.
- Started web development on personal projects 6+ years ago.
- Implemented multiple projects using php, fastapi or express for personal use, in highschool or university courses.
- Highly proficient in javascript/typescript.

Computer Graphics

- Learned WebGL2 in 2020 during lockdown.
- Wrote multiple personal projects using WebGL2.
- Added WebGPU implementation of FlexLight.
- Developed a WebGPU powered architecture planer as a final project for the "Fundamentals of Web Engineering" course.

Machine Learning

- Multiple personal and university projects using numpy, pandas and torch.
- Implemented GPU accelerated Neural Networks in WebGL and WebGPU.
- Passed "Introduction to Machine Learning" course at ETH with 5.0.

Linux

- Using Linux as my primary Operating System for 6+ years.
- Managed multiple Linux-VPS instances and websites.
- Docker
- Setting up and maintaining Nginx, NodeJS, MySQL, Dovecot and Postfix installations.

Portfolio

FlexLight Engine ([GitHub](#) | [Demo](#))

FlexLight is a web-based fully modular render engine, that supports real time Monte-Carlo Pathtracing (using BVHs and importance sampling). The engine features a built-in Denoiser and uses PBR materials and several approximations grounded in physics to achieve realistic lighting. Additionally it allows obj file

imports and supports fully dynamic scenes. I built the engine entirely from scratch by myself using WebGL 2 and Javascript. A WebGPU backend using compute shaders was implemented in 2024.

NeuNet ([GitHub](#) | [Demo](#))

Neunet is a web frontend library that implements Neural Networks using GPU acceleration with WebGL 2 and is currently being reworked to support arbitrary derivable layers and arbitrary loss functions using WebGPU. Different activation functions like leaky ReLU, tanh, sigmoid or linear output are supported and can be assigned dynamically on a per neuron basis.

Additional Interests

- member of German party Bündnis 90/Die Grünen, Grüne Jugend
- volunteered to hold and organize children's church for over 3 years

Signature