Mark Tensen
Machine Learning Engineer & Researcher

Experienced ML engineer specialized in 3D graphics and rendering R&D. Applying state-of-the-art solutions to real-world problems, with solid full-stack engineering skills. On the side, I'm tinkering with real-time GPGPU programming.

Experience

Hypothetic - Full Stack ML Engineer
Jan 2023 - now

At Hypothetic we're building creative tools for the 3D industry. I've implemented/trained state of the art **3D diffusion models**, **control-net, GANs**, **differential rendering** and other generative methods, into our products. Also actively contributing to our **vector search DB**, Django backend, frontend, and dev-ops pipelines.

Sogeti - Senior Data Scientist
Jan 2021 - Nov 2022

At Sogeti I've worked as a consultant to develop AI products within the AI Center Of Excellence. My work was for a large part on **GANs** for synthetic data & image synthesis/**computer vision**, and building generative tooling for our clients BMW, Alstom, RDW, and KLM with **Reinforcement Learning** and **VR** in **Unity**.

Onformative - AI Research
Nov 2019 - Jan 2023

Onformative is one of the world's leading Generative design and graphics studios. With them I've set up a **reinforcement learning** project, in which I trained an agent to make sculptures by within a 3D environment with **Unity3D**, **ml-agents**, and **tensorflow**. Project link here

Plant Vision - CTO
Jan 2021 - Dec 2019

I transformed Plant Vision's ideas into a working demo prototype. Plant Vision is an AI/AR startup with tech in service of a large scale **computer vision** approach to optimize horticulture. I've built an **iOS** app to gather and annotate image data, trained **object detection** networks and embedded them on iOS via **CoreML**. I built a backend for it in **AWS**.

MIT Dicarlo Lab - Research Assistant
Sept 2017 - May 2018

I've co-authored one publication on **Neural architecure search** (NAS) for **image recogntion** by optimizing and implementing **Reinforcement learning** algorithms, and researched NAS applied to **RNNs**. My work was supervised by prof. J. DiCarlo, dr. P. Bashivan and dr. J. Kubilius.

UvA Pennartz Lab - Research Assistant
Jan 2017 - Aug 2017

Supervised by prof. C.M.A. Pennartz and dr. S. Dora. I did neuroscience research on how deep predictive coding networks could be used for **image classification**.

Education

University Of Amsterdam -BSc Neuroscience
2012 - 2016
Keio University - Global Exchange Program
2016 - 2016
University Of Amsterdam - MSc Neuroscience
2017 - 2019

Contact
- blog/portfolio: marktension.nl
- tensen.mark@gmail.com
- +316 12268770
- Amsterdam

Social
- twitter.com/Mark_Tension
- linkedin.com/in/mark-tensen

Skills
- **8 years** ML research, software engineering & datascience
- **5 years** Unity development
- **3 year** (3D) graphics & compute shaders

Tech
- **ml:** Tensorflow, Pytorch, Python, linux, differentiable rendering (mitsuba, JAX, Pytorch3D)
- **graphics:** Rendering, raymarching, Unity3D, HLSL, C#, blender, webGPU,
- **frontend:** Javascript, Typescript, ReactJS,
- **backend:** postgressSQL, PGVector, Django, python
- **infra:** AWS, Azure, kubernetes, docker, docker-compose, wandb, gh-actions

Publications
- Bashivan P, Tensen M, DiCarlo J, (2018) Teacher Guided Architecture Search

Languages
- English, Dutch, German

Hobby's
- Digital Music Production & MaxMSP device programming
- Creative Coding with GPGPU methods for large scale visual simulations
- Brazilian Jiujitsu blue belt competitor