

# Resume

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## Profile

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AI/ML executive with two decades of experience leading research and engineering at the frontier — from foundational RL research at DeepMind to production AI infrastructure at Meta, the Ellison Institute of Technology (Oxford), and the Tony Blair Institute. Repeat founder and founding-team operator, currently building an autonomous coding agent for the enterprise at seed stage. Track record of recruiting and scaling world-class technical organisations, setting scientific direction, and shipping novel AI products into production.

## Experience

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### **Pavo AI · Director of ML**

*Jan 2026 – Present*

Co-leading technical strategy at a seed-stage startup building an autonomous, life-long learning coding agent for the enterprise.

- Standing up the research and engineering organisations from zero.
- Owning the technical and scientific roadmap for the core challenges in life-long learning.

### **Tony Blair Institute for Global Change · Head of ML, AI Incubator (Founding Team)**

*Mar 2025 – Nov 2025*

Founding member of the leadership team that launched a new AI Incubator to deliver AI products into government partners worldwide.

#### **Organisation leadership**

- Set the AI product and ML infrastructure strategy for the Incubator, enabling rapid prototyping and deployment of AI applications across multiple government partners.
- Recruited and led an interdisciplinary team across software and cloud engineering.
- Built a portfolio of agentic AI prototypes spanning the Incubator's initial offering.

#### **Technical leadership**

- Architected applications leveraging large language and deep learning models for globally distributed government use cases.
- Developed reinforcement-learning-based world-action models that capture relationships between real-world systems based on legislation, policy, and econometric data — modelling officials' actions and simulating short- and long-term effects.
- Led research on improving accuracy and grounding of model predictions.

### **Ellison Institute of Technology, Oxford · Head of MLOps**

*Sep 2024 – Mar 2025*

Founding member of the AI & Data team — a horizontal function enabling the entire institute's AI and ML capabilities.

- Defined the ML infrastructure strategy supporting innovation and productionalisation across the institute's four domains: medical sciences, climate, agriculture & sustainability, and government efficiency.
- Recruited and led an engineering team across software and cloud systems.
- Owned the strategic partnership with Oracle.

## **Leapfrog Studios Ltd · VP Applied Research, Co-Founder**

*Jul 2023 – Sep 2024*

Co-founded a studio applying machine learning to invent new ways video games engage players. Historically, innovation in games has tracked hardware cycles — increased compute (PlayStation, Xbox) or new modes of interaction (mobile touch, Kinect, Wii, VR). Leapfrog was the thesis that, for the first time, algorithmic innovation alone now offers a comparable opening for new genres on PC and console.

- Recruited and led a team of research scientists and engineers.
- Set the scientific and product direction.

## **Meta · Staff Software Engineer**

*Mar 2022 – Jul 2023*

**Online experimentation infrastructure for Ads Ranking** — Uber-Tech Lead for the area responsible for the correctness and accuracy of experiment results, with 20 engineers across six projects spanning pure statistical research to full-stack engineering. Operated against compounding headwinds: p80 of true effects below the platform's detectability threshold, design that facilitated p-hacking, and complex feedback loops creating confounders. Set technical direction, ran roadmapping, coached engineers, and introduced large innovative bets to move the platform onto a new S-curve. (*HHVM, Python, Thrift, Presto, EntFramework*)

**ML model delivery support** — Single point of contact for a team R&Ding key improvements to the ML models powering Meta's ranking system. Translated their needs into the org's technical roadmap and assembled ad-hoc task teams to unblock delivery. Awarded the highest performance rating ("Greatly Exceeds Expectations") in the first year for enabling the partner team to ship nearly 50% more innovation than originally planned.

## **DeepMind · Senior Software Engineer**

*Jun 2017 – Feb 2022*

**Model-based RL infrastructure** — Tech lead of a project building high-performance, distributed infrastructure for training model-based RL agents in fully observable, continuous environments with high-dimensional observations. Defined technical direction, coordinated with other ML ecosystem leads, and developed alongside research scientists and engineers. (*Python, C++, JAX, Cloud*)

**Rapid adoption of third-party RL technology** — Owner and architect of infrastructure that significantly reduced the engineering effort to adopt third-party technology for generating RL training data. The largest project I led at DeepMind, coordinating across several teams; downstream projects launched with one engineer in hours. (*C++, Python, Cloud, Docker*)

**Large-scale dataset for supervised learning** — Tech lead and primary developer of infrastructure for collecting data at scale from hundreds of thousands of instances of a highly specialised scientific simulator. Adapted code designed for different distributed architectures to perform optimally on Google Cloud. (*Python, C++, Docker, Cloud*)

**Robot perception task suite** — Sole engineer in a research team studying alternative perception models for controlling robotic grippers in complex manipulation tasks. Built a suite of 3D environments and tasks for agent training. (*C++, MuJoCo, Unity 3D, Cloud*)

**Causal reasoning task suite prototype** — Lead developer in a multidisciplinary team building a prototype task suite for studying causal models. Defined the abstractions that allowed four engineers to focus on rapid prototyping. (*C#, Unity 3D*)

**Using Unity to Help Solve Intelligence** — Contributor on the team that adopted Unity 3D for AGI research; built the interfaces and protocols for exchanging data between agents and Unity environments. (*C#, Unity 3D, Python*)

**DeepMind Control Suite** — Owned the suite visualiser: implemented desktop and web (Colab) versions, open-sourced the project, and supported the user community. (*Python, MuJoCo, Colab*)

## **Botperfect · Owner, Software Engineer**

*Jan 2016 – Jun 2017*

**Kanban tasks manager for accountancy offices** (own product) — An assistant for managing accountancy documentation fused with a comprehensive task tracker. Ran market research, built the MVP, deployed with first customers, and coordinated third-party contractors. *(C#, JavaScript, HTML, ASP.NET, Bootstrap)*

**Hatred** (commissioned by Destructive Creations) — Prototype of a twin-stick shooter focused on character animation and environment destruction. *(C++, UE4, PhysX, 3DS Max)*

**Virtual battlefield simulation** (commissioned by Bagira Systems) — Improved performance of animation and physics systems to simultaneously simulate >5,000 visible units. *(C++, Havok Physics/Animation/Behavior)*

**PDF documents optimiser** (commissioned by Digital Recycle Ltd) — A compression library for PDFs that preserved original quality. *(C++)*

## **Crytek Frankfurt · Senior Animation Programmer**

*Feb 2016 – Mar 2016*

Built the locomotion system for the dinosaur characters in the VR title *Robinson the Journey*. The challenge: bipedal creatures with long tails moved in a snake-like way, so I combined standard bipedal techniques with novel approaches to capture that sleek motion. *(CryEngine, C++)*

## **Havok · Senior Software Engineer**

*Nov 2011 – Dec 2015*

Built a deployable library of characters and vehicles for simulations: blend trees for locomotion, aiming, and on-demand poses; integration with Havok AI for navigation; client/server networked vehicles; content-authoring pipelines for 3DS Max and Maya; integration with Havok's vForge engine. Designed a 2D parametric motion controller blending multiple clips against velocity/turn-angle inputs and a velocity-domain animation synchroniser preventing output-velocity distortion in blended locomotion. Implemented ragdoll controllers for the new physics library. Worked closely with animators and 3D artists. *(C++, C#, LUA, Havok Behavior/Physics/Animation, Oculus Rift DK2)*

Based in the Dublin office for the first year, then remote from Poland.

## **CD Projekt RED · Senior Gameplay/AI Programmer**

*Dec 2009 – Oct 2011*

**The Witcher 2 (Xbox 360)** — AI subsystem optimisations for Xbox 360. Supervised work on gameplay features for the platform. *(C++, wxWidgets, DirectX 9.0, in-house RedScript)*

**The Witcher 2 (PC) — character navigation and locomotion** — Integrated PathEngine navigation with the in-house animation system. Implemented local steering / obstacle avoidance, kinematic constraints between navigation and animation, off-navmesh traversal, and docking to obstacles. *(C++, PathEngine, Havok Animation/Physics, RedEngine)*

**The Witcher 2 (PC) — non-linear quest authoring system** — A visual block language (similar to Unreal's Blueprint) that let writers and designers transform gameplay ideas into shipped gameplay. The system orchestrated every other gameplay subsystem in the engine. End-to-end ownership: core system, editors and debuggers, integration, and ongoing user mentorship. *(C++, wxWidgets, RedEngine)*

**The Witcher 2 (PC) — character animation, research, and engine** — Animated all in-game characters with artists and designers. Researched formation movement, crowd simulation, and sensory systems. Worked on core RedEngine systems: a saves system integrated with a real-time multithreaded scripting language, world streaming, and performance optimisations.

## Coverision · Owner, Software Engineer

Nov 2008 – Nov 2009

**Multi-platform game engine for PC and Nintendo Wii** (outsourced to Bloober Team) — Designed and developed input, basic animation controller, sound, serialisation, scene-graph management, and an FSM-based AI subsystem. (C++, Codewarrior)

**Navigation system for Egypt: Engineering an Empire (Nintendo DS)** (outsourced to Bloober Team, released by Slitherine) — Designed and developed a game editor for a turn-based strategy game. (C++, Qt)

## Sabre Holdings Polska · Software Engineer

Nov 2006 – Oct 2008

Laid out the architecture for the next-generation data-mining application. Mentored teams on TDD and OOAD techniques. (C++, CppUnit)

## Motorola Polska Electronic · Software Engineer

Mar 2005 – Oct 2006

Designed and developed a packet data router for a Tetra-standard telecommunication system. (C++, Linux, Bash, Tsh)

## Publications

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- Patent: Simulating Industrial Facilities for Control — Application no. PCT/EP2023/067148.
- Semi-analytical Industrial Cooling System Model for Reinforcement Learning
- Fast transport simulations with higher-fidelity surrogate models for ITER
- Using Unity to Help Solve Intelligence
- dm\_control: Software and Tasks for Continuous Control
- Evaluating model-based planning and planner amortization for continuous control
- Learning Dynamics Models for Model Predictive Agents
- Augmenting learning using symmetry in a biologically-inspired domain
- “Unit tests vs. functional tests — round 101” — Gamasutra blog
- “Virtual mess — destructors in C++” — Gamasutra blog
- Articles on animation programming — ptochim.wordpress.com

## Education

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- **1999–2005** — MSc, Electronics and Information Technology, Technical University of Lublin. Master thesis: *Adaptive regulation of randomly disrupted plants.*

## Communication

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- **Programming languages:** C++, Python
- **Natural languages:** Polish (native), English, Spanish, German, French
- **Universal languages:** Linear algebra, Calculus, Probability Theory