

# Eren Demir

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## Profile

Computer Vision Engineer and Technical Founder building AI-powered healthcare solutions. Currently developing Previa Health for MSK dysfunction prevention. Full-stack experience from research to production deployment.

## Experience

### Founder & Technical Lead | Previa Health

2025 - Present

- Building an AI-powered movement analysis platform for early detection and prevention of musculoskeletal (MSK) dysfunction.
- Developed proprietary computer vision algorithms for advanced biomechanical assessment.
- Secured a €300k pre-seed funding commitment, with additional interest including Check24 Ventures.
- Participant in the University of Bonn Accelerator Program.

### Co-Founder | Athly (AI Fitness Intelligence)

2024 - Early 2025

- Engineered a multimodal AI system leveraging voice, camera, and behavioral learning before mainstream adoption.
- Implemented autonomous agent capabilities for dynamic, personalized fitness optimization.
- Built predictive models for workout timing, nutrition planning, and exercise selection to maximize user results.

### Developer | Renewable Energy Forecasting System

2023

- Developed and deployed LSTM and Random Forest models for predicting renewable energy production.
- Processed and analyzed nationwide German weather station data to create accurate regional forecasts.
- Achieved higher forecast accuracy than standard meteorological systems, with direct applications in the agricultural sector.

## Education

**B.Sc. Computer Science | University of Bonn 2020 - 2025 (expected)**

- **Thesis:** "Position-Invariant Human Pose Estimation for Clinical Movement Analysis"
- **Supervisor:** Prof. Dr. Jürgen Gall (Lamarr Institute, Computer Vision)
- **Research:** Conducted accuracy analysis of MediaPipe/MoveNet on specialized physiotherapeutic datasets .

## Technical Skills

- **Core:** Python, TypeScript, Machine Learning (PyTorch/TensorFlow), Computer Vision
- **Stack:** React/Native, Svelte, FastAPI, Supabase, Git
- **Focus:** Human Pose Estimation, Time Series Forecasting, Full-Stack Development

## Research & Projects

**Graph Kernels for Classification | 2024**

- Discretization strategies for node centrality measures.
- Evaluated and benchmarked graph kernels using Tukey Depth and NetworkX implementations.

**Movement Pattern Recognition | 2024**

- Analyzing the correlation between movement quality and injury risk using extensive clinical datasets.
- Developing position-invariant algorithms to enhance consumer-grade pose estimation reliability.

## Achievements & Recognition

- First bachelor student to be supervised by [Prof. Dr. Jürgen Gall](#) at the renowned [Lamarr Institute](#).
- Built an investor network across healthcare and AI sectors.
- Selected for the competitive University of Bonn Startup Accelerator program.
- Developed multiple AI applications ahead of mainstream market adoption.

## Relevant Coursework

Machine Learning, Deep Learning, Computer Vision, Data Structures & Algorithms, Lean Startup, Statistical Learning Theory