Benjamin Bolte

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AI Researcher & Engineer

Summary

AI engineer, researcher and entreprenuer with experience at Facebook AI Research, Tesla Autopilot and Y Combinator. Full-stack engineer with experience in hardware, software and ML systems.

Experience

Member of Technical Staff, OpenAI ***San Francisco, 2026 - present***

- Midtraining, multimodal reinforcement learning; building scalable represention learning systems

Founder & CEO, K-Scale Labs, YC W24 ***Palo Alto, 2023 - 2025***

- Built and sold an open-source Unitree G1-like humanoid robot, the K-Bot
- Led full technical development encompassing CAD, PCB design, firmware, software, and ML systems
- Sourced Asian suppliers and completed production of 10 units

Research Engineer, Facebook AI Research ***New York, 2022 - 2023***

- Semantic and affordance mapping for robots, published at IROS

Autopilot Engineer, Tesla Autopilot ***Palo Alto, 2021 - 2022***

- Developed and deployed first autoregressive transformer for autonomous vehicle waypoint prediction
- Rewrote neural network tracer and compiler for Tesla's HW3 ASIC
- Implemented CUDA kernels for voxel occupancy network training data generation

Research Engineer, Facebook AI Research ***Seattle, 2018 - 2021***

- Developed speech foundation model. Achieved SOTA WER on Librispeech, now widely used as a semantic tokenizer
- Trained and deployed the first transformer model for content moderation, running on all Facebook posts and comments

Various Internships ***2016 - 2017***

- *Facebook*: Harmful content detection
- *Google Research*: Handwriting recognitioon
- *Amazon*: Invoicing APIs for Amazon India

Education

Emory University **B.S. Mathematics & Computer Science, 2013 - 2017**

- Computational Neuroscience Training Grant: NIH-funded research grant ($10,000 / year with additional benefits, two years)
- Dean's Achievement Scholarship: Highest undergradutate merit award (full tuition for three years)

Selected Research

B. Bolte, A. Wang, J. Yang, M. Mukadam, M. Kalakrishnan, C. Paxton, "USA-Net: Unified Semantic and Affordance Representations for Robot Memory," *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, 2023.

W.-N. Hsu, **B. Bolte**, Y.-H. H. Tsai, K. Lakhotia, R. Salakhutdinov, A. Mohamed, "HuBERT: Self-Supervised Speech Representation Learning by Masked Prediction of Hidden Units," *IEEE/ACM Transactions on Audio, Speech, and Language Processing*, vol. 29, pp. 3451-3460, 2021.