



Mentium Technologies

Cloud AI quality at the Edge

Problem

The quality and dependability of AI analytics are proportional to the size of the Neural Networks used for any given task, and the number and complexity of the application where AI capabilities are required are only growing. At the moment the Cloud is the only platform that can deliver the kind of computational power required by the market. A new Edge platform is eagerly looked for, that can support the AI quality requirement and solve the Cloud problems in latency, security, privacy, infrastructure dependability and costs.

Solution

Our solution is the next evolution of memory: AI-Memory (AIM).



AIM is a computing memory chip that delivers unbeatable Neural Network inference efficiency and speed. We use a unique hybrid architecture with a focus on efficiently using all processing elements to deliver state of the art efficiency to deliver >50 TOPS/W.

AIM is a bolt-on chip for any existing system. It is a modular addition that brings world-class AI capabilities to any system.

We envision a future where banks of AIM memory will work side-by-side with a digital processor to accelerate AI algorithms in any type of platform.

Market Opportunity

"The global artificial intelligence chip market is projected to reach \$91,185 million by 2025, growing at a CAGR of 45.4% from 2018 to 2025." (Allied Market Research)

Business Model

Selling inference memory processors to system integrators and sub-systems suppliers, starting from high-end Edge computing platforms such as security cameras.



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Competition

- **Mythic-AI**, developing a full SoC.
 - Targeted at server and near-edge applications
 - Architecture optimized for very big neural network models
- **D-Matrix**, developing full SoC
 - Based on SRAM in-memory computation
 - Limited by SRAM leakage
 - Large area required, acceptable for server application

Mentium is not developing a host SoC, but a dedicated hybrid memory processor attached to the SoC memory system able to bring Cloud-quality AI at the Edge.

Progress to Date

- Advanced engaging with strategic partners
- Demo on the way
- New IP filings across the architecture and system approach

Team

- **Mirko Prezioso**, PhD, CEO, co-founder, Neural Networks, devices physics
- **Farnood Merrikh Bayat**, PhD², CTO, co-founder, electronic engineering and computer science, Analog Design, Neural Networks.
- **Mark Ross**, VPoE, veteran of semiconductor business, former Cypress CTO, System Architecture.
- **Jay Sulima**, IC Design Manager, electronic engineering.
- **Yeshwant Subramanian**, Senior mixed-signal engineering.
- **Craig Ensley**, Executive Board member, former CEO of IMT. Extensive experience in Semi industry.
- **George Jones**, Entrepreneur and mentor with extensive experience in market fit, strategy, BD and M&A.
- **Paul Pickering**, Sales, active advisor, 30+ years of experience in semiconductor product strategy.
- **Pete Rodriguez**, advisor and Board Observer, Silicon Catalyst CEO, veteran of semiconductor business.
- **John Bowers**, Board member, world renowned UC Santa Barbara professor, multiple successful spin-off from UCSB.

History

We incorporated in February 2017. Extensive publications on in-memory computing technology, mainly within the UPSIDE project funded by DARPA. Our operation has been mainly funded by federal contracts and grants, and more recently by Silicon Catalyst Angels.