Kunle Olukotun

• Professor of EE and CS at Stanford since 1992
  – Cadence Design endowed chair
• Computer architecture and parallel computing
• Pioneer in CMP (multicore) processor design
  – Stanford Hydra project
• Parallel programming for all programmers
  – Director of Pervasive Parallelism Lab (PPL)
  – High-performance Domain Specific Languages (DSLs)
• Data Analytics for What’s Next (DAWN)
  – Democratizing machine learning
Academic Research and Startups

• When you can’t find an industrial partner for your ideas make one

• Technology transfer by PhD
  – Understand the initial market for your product (technology)
  – What is your unfair advantage
  – More robust technology than research prototypes
  – Cost of schedule slip is much worse
  – You don’t have much time for research at a start-up

• Pick your team wisely
  – Technical team (lab partners?)
  – Management team (who is making decisions)
  – Cap table

• Funding issues
  – Investors (smart vs. dumb)
  – Angels vs Venture Capital firms
Startup Pros/Cons

**Pros**
- Don’t have to convince existing company to change course (until exit)

**Cons**
- Have to convince investors (repeatedly)
- Have to build a whole company, not just a development team
  - Finance, sales, marketing, …
- Limited resources
- Impatient capital
Afara WebSystems

• Founded in 1999
  — Height of internet boom
  — Large web sites running out of power and space
  — Goal: Revolutionize internet data centers (multi-B $ market)
  — Goal: Approach: 10x performance/watt with new microprocessor based on high-throughput CMP

• Sold to Sun Microsystems in 2002
  — Dot com bomb and VCs wanted to cash-out
  — Sun processor design lagging
  — Niagara 1 design
  — 9 generations of Niagara at Sun and Oracle
  — $1 billion revenue per year
Mines.IO: Data-Driven Automation of Loans, Credit Cards, & Savings

- Founded in 2013
- Delite: high-performance machine learning platform
- Started with seed investment ($3m), Series A in 2018 ($13M)
- Operating in Nigeria and Brazil
SambaNova Systems

Vision

• *Lead industry* in machine learning and data analytics infrastructure with new AI processor
• *Highest Ease of Use* with automated model optimization and compilation for Hardware
• *Deliver unprecedented* performance to accelerate growth of intelligent applications in enterprise

At a glance

Nov ‘17
founded

Palo Alto
California

$56M
Series-A

140
HW/SW Engineers

Kunle Olukotun
Professor of EE and CS, Stanford Univ.

Rodrigo Liang
Ex-SVP Processor & ASIC Dev. Oracle Corporation

Chris Re
Assoc. Professor of CS Stanford University