KASI MANIKUMAR

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EXPERIENCE

Software Engineer, January 2020 - Current
January.ai, Engineering, Menlo Park, CA

- generally worked on backend systems, data engineering, and devops
- owned 5+ analytics and ML inference+training microservices that feed key user-facing features (Python/Flask, Docker)
- data infrastructure for ingesting and productionizing log data (Kinesis, Postgres, Snowflake)
- libraries for accessing data and monitoring infrastructure, used across all services

Software Engineer, January 2019 - December 2019
SK hynix, Memory Systems Research Division - Solutions Lab, San Jose, CA

- Computational Storage Prototype: prototyping and evaluating in-storage acceleration for various workloads
  - Designed system to emulate in-storage processing (P2P DMA, FPGA accelerator)
  - Created encryption (AES-XTS) IP in OpenCL using Xilinx SDaccel HLS (OpenCL)
  - Wrote Linux kernel module according to the kernel's crypto API to asynchronously coordinate offloaded encryption with FPGA and optimize communication by aggregating blocks to write.
  - Debugged, profiled and optimized Xilinx Runtime for integration with DM crypt
- Coordinating research partnership with Prof. Jian Huang (UIUC ECE)
  - Contributed to SoW, reviewed and gave feedback on deliverables
- Performance Analysis of MemVerge s/w stack and Intel Optane DC NVDIMM

Software Engineering Intern, August 2018 - December 2018
AbbVie, Innovation Center, Champaign, IL

- Added features to dashboard for research scientists to visualize clinical trial data (D3.js)
- Created ETL pipelines to extend API for more clinical trial models (PostgreSQL + Python)

Software Engineering Intern, January 2018 - August 2018
Syngenta, Digital Innovation Lab, Champaign, IL

- Built and deployed a web API for an internal tool to scrape, correct, and label scientific table data from a PDF
- Converted above data-scraping algorithm into lambda functions to scrape data from documents

GPU Architecture Intern, May 2017 - December 2017
NVIDIA, GPU Compute-Architecture group - Performance Analysis Tools, Santa Clara, CA

- Developed continuous integration framework in Perl to validate low-level GPU application profiling tool
- Wrote benchmarks in CUDA C++ to set performance monitors in GPU for regression testing framework
- Ported an application performance analysis tool from C++ to Python to visualize CUDA app execution DAG

EDUCATION

University of Illinois, at Urbana-Champaign, graduated: December 2018
B.S. **Computer Science and Statistics**

PROJECTS

- Pyrate: A bittorrent client that supports single-file leeching. Uses tornado web server framework. written in Python.
- Dynamic-Memory-Allocator: Implemented malloc, calloc, realloc, and free with an implicit free-list, block-coalescing, and block-splitting. written in C.

LANGUAGES/TOOLS/SKILLS

- Languages: Python, Java, C, C++, OpenCL C/C++, CUDA C/C++, SQL
- Skills: AWS, git, containers, backend system design, linux user/kernelspace programming

AWARDS

- Eagle Scout - Boy Scouts of America, 2014