Hariharan Devarajan

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PROFILE

- **3 years** of experience developing software solutions for Oracle Financial Services,
- **2 years** of experience conducting top-tier research for the Scalable Computing Software Lab at Illinois Institute of Technology,
- **3 months** of experience developing hierarchical buffering solution for The HDF Group
- excellent project-management, and training and mentoring skills.

WORK EXPERIENCE

COMPANY	DESCRIPTION
The HDF Group (3 months)	➢ Designed framework for Hierarchical Buffering Platform as a VOL Plugin in HDF5. ➢ Tested the new software on **Cori Supercomputer**.
Illinois Institute of Technology (2 year)	➢ **Research Assistant** performing I/O scalability research under Dr. Xian-He Sun for HPC and Cloud environment offering a unified layer for seamless integration of these systems. o Convergence of the semantic gap between the Cloud and HPC ecosystems o Improve distributed I/O path by offering new libraries minimizing I/O time. o Provide interference free and self-aware solutions of optimizing I/O systems. ➢ **Teaching Assistant** for OOP and Data Structure & Algorithm assisting professor with class management and helping students with coursework for better understanding.
ORACLE FINANCIAL SERVICES SOFTWARE (3 YEARS)	➢ Designed framework for REST API for product's middleware impacting cloud integrations. ➢ Developed utility for **inter-release migration** activities for clients enabling migration to a newer version in a day. ➢ Mentoring new employees on product framework and design, helping them deliver faster. ➢ Awarded "**We Applaud Award**" for designing framework effecting whole organization.

EDUCATION

DEGREE	YEAR	NAME OF INSTITUTION	CGPA
PHD in CS	2016 – Current	Illinois Institute of Technology, Chicago	3.63/4
B.Tech (Hons.)	2009-2013	NIT, Jamshedpur	8.61/10

RESEARCH INTERESTS

TOPIC	DESCRIPTION
Distributed I/O Systems	➢ Convergence of Cloud and HPC Ecosystem on a storage level. ➢ Enabling Buffering in HDF5 library. ➢ Scheduling I/O on shared buffers with low interference. ➢ Enable Efficient usage of Deep Buffer systems. ➢ I/O intensity metric for Application's Code-block ➢ Build Self-aware I/O systems.

PROGRAMMING LANUAGES AND INTERFACES KNOWN

COMFORT	DESCRIPTION
Best	Java, C++, MPI, HDF5, Python, MSSQL
Medium	HTML, PHP, CSS, AJAX, JS, Flash
Least	J2SE, J2EE, ASP.NET, C#, VB, Ruby, Perl, Swift, XCode

PAPERS

PUBLICATIONS

- **H. Devarajan**, A. Kougkas, H-B Chen, and X-H Sun, ***Open Ethernet Drive: Evolution of Energy-Efficient Storage Technology,*** in Proceedings of the ACM SIGHPC Datacloud'17, in conjunction with SC'17
- A. Kougkas**, H. Devarajan** and X-H Sun, ***Enosis: Bridging the Semantic Gap between File-based and Object-based Data Models,*** in Proceedings of the ACM SIGHPC Datacloud'17, in conjunction with SC'17
- A. Kougkas**, H. Devarajan** and X-H Sun, ***Syndesis: Mapping Objects to Files for a Unified Data Access System,*** in Proceedings of the ACM SIGHPC MTAGS'17, in conjunction with SC'17
- Anthony Kougkas, **H. Devarajan**, and X-H Sun. 2018. Hermes: a heterogeneous-aware multi-tiered distributed I/O buffering system. In Proceedings of the 27th International Symposium on High-Performance Parallel and Distributed Computing (HPDC '18). ACM, New York, NY, USA, 219-230. DOI: https://doi.org/10.1145/3208040.3208059
- A. Kougkas, **H. Devarajan**, and X-H Sun. "IRIS: I/O Redirection via Integrated Storage." In *Procs. of 32nd ACM International Conference on Supercomputing (ICS)*. 2018.