Akash Panda

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Objective

Highly motivated, results-driven engineer and accomplished computer science professional with a Master's in Computer Science from IISc Bangalore and 7 years of experience in computer architecture, performance analysis, post-slicon analysis and software development. Looking for opportunities in the Computer Architecture and Operating Systems area to leverage expertise in performance analysis, software development, and engineering to contribute effectively to a dynamic and innovative team. Passionate about optimizing system performance and delivering innovative solutions for complex technical challenges. Eager to collaborate with diverse teams of engineers and researchers to explore and work on emerging technologies, transform ideas into impactful solutions, and help shape the future of computing.

Experience

- **AMD India Pvt. Ltd.** — Bengaluru, India
  Member of Technical Staff - Silicon Design Engineering — *April 2021 - present*
  - Conduct performance analysis of micro-benchmarks and real-world workloads to identify bottlenecks, and propose solutions to achieve optimal performance improvements.
  - Conducted Post-Silicon analysis of Confidential Virtual Machines on AMD EPYC Genoa and AMD EPYC Turin silicon from a very early silicon to release candidate.
  - Identified and resolved critical performance bottlenecks in large-scale systems by analyzing real-world workloads and micro-benchmarks.
  - Collaborated with cross-functional teams to implement proposals and enhance system performance.
  - Developed internal tools that streamlined workflows to enhance team productivity.
  - Published impactful research in internal conferences (GTAC 2024, AATC 2023, AATC 2024).
- **Info Edge (India) Ltd. (Naukri.com)** — Noida, India
  Lead Engineer — *June 2015 - July 2018*
  - Led Naukri's FirstNaukri team, driving roadmap definition and implementing engineering best practices.
  - Skillfully guided and mentored Software Developers in designing and developing robust solutions.
  - Successfully developed and deployed end-to-end micro-services with a focus on scalability and availability.
  - Developed various module (frontend and backend) to suit product requirements. Built and deployed scalable, highly available and modular software products.
  - Pioneered the adoption of cutting-edge technologies to enhance product value.
  - Conducted comprehensive health checks of applications and servers to ensure optimal performance.

Education

- **Indian Institute of Science** — Bengaluru, India
  Master of Technology (Research) - Computer Science and Automation; GPA: 8.3 — *July 2018 - April 2021*
  Selected Courses: *Computer Architecture, Operating Systems*
- **National Institute of Technology(NIT) Agartala** — Agartala, India
  Bachelor of Technology - Computer Science and Engineering; GPA: 8.66 — *July 2011 - May 2015*
  Selected Courses: *Computer Organization, Operating Systems, Data Structures, Analysis Of Algorithms, Networking, Databases*

Publications

- **nuKSM: NUMA-aware Memory De-duplication on Multi-socket Servers**: Presented at 30th International Conference on Parallel Architectures and Compilation Techniques (PACT), September 2021
- **GTAC 2024**: Published 2 papers at AMD Global Technical Authors Conference (GTAC) 2024.
- **AATC 2022 & 2023**: Published 1 paper each at AMD Asia Technical Conference (AATC) in 2022 and 2023.

Technical Skills

- **Programming Languages**: C, C++, Python, Bash, PHP, SQL
- **Core Competencies**: Performance Analysis, Software Development, Debugging, Troubleshooting, Team Leadership
- **Areas of Expertise**: Operating Systems, Computer Architecture, Performance Analysis

Key Projects

- **nuKSM: NUMA-aware Memory De-duplication on Multi-socket Servers (M.Tech. Research Thesis Project)**: Developed nuKSM to optimize memory deduplication and minimize NUMA-induced overheads, leading to improved system efficiency. Thesis Report
- **Semantic Information of Deduplicated Pages**: Built a tool to extract semantic information from deduplicated pages, enhancing memory optimization analysis. Report
- **Prevalence of Page Splintering**: Evaluated the impact of page splintering on system performance in virtualized environments. Report
- **Heterogeneous Data Race Exhibiting Programs**: Designed workloads showcasing heterogeneous data races for performance evaluation in hybrid systems. Report