Amit Roy

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HIGHLIGHT

Full stack software engineer with **research** experience in **distributed computing**, **performance optimization** and **machine learning**.

- 1+ years of experience in healthcare startup
- 9+ years of solid coding experience with 4 years of experience in research
- 4+ years of experience in parallel computing, with focus on scientific computing and machine learning

EXPERIENCE

drchrono, Sunnyvale, CA   *October 2016 – present*
Software Engineer (Team Lead)

- Rewrote and improved the Patient Payment system, resulted in lowered churn and significant improvement of the product's competitiveness in the market.
- Successfully lead the billing team, resulted in improved growth and quality of the product's billing component.
- Used Django, AngularJS and Javascrip to design and develop RCM tools to increase efficiency of medical billers.
- Restructured aspects of the technical interview process, leading to higher quality candidates

University of Utah, School of Computing, Salt Lake City, UT   *June 2013 – July 2016*
Research Assistant in Compiler Technology to Optimize Performance group, advised by Prof. Mary Hall

- Collaborated with scientists from Nvidia, BlueWaters, Argonne National Laboratory and University of Southern California.
- Improved auto-tuning across GPU and CPU architectures by extending Nitro framework with machine learning. This enabled it to tune across architectures.
- Automated generation of high performance code for Quantum Chromodynamics(QCD) application using Composable High-Level Loop (CHiLL) transformation framework.

Argonne National Laboratory, Argonne, IL   *May 2015 – July 2015*
Research Intern

- Achieved significant search speedup between 1.6x - 130x on a variety of modern architectures for parallel mini-applications.
- Developed an approach on exploiting performance portability in search algorithms for Autotuning.
- Built performance surrogate models of different architectures by using machine learning techniques.

SKILLS

Languages:	Python	C/C++	Javascript	R	C#
Misc:	Django	Angularjs	CUDA	SQL	Reactjs

AWARDS & PUBLICATIONS

[**LCPC'18**] Polyhedral Compilation Support for C++ Features: A Case Study with CPPTRAJ	*December 2017*
[**iWAPT'16**] Exploiting performance portability in search algorithms for autotuning	*February 2016*
[**ASPLOS'16**] Architecture-Adaptive Code Variant Tuning (*22% Acceptance rate*)	*January 2016*
Robert and Elizabeth Muller Award for Promise in Physics *at Ohio Wesleyan University*	*May 2012*

EDUCATION

MS, Computer Science   *August 2016*
University Of Utah, Salt Lake City, UT   **GPA 3.90**

BA, Computer Science and Physics (minor: Math)   *May 2012*
Ohio Wesleyan University, Delaware, OH   **GPA 3.84**
   - Departmental Honors in Computer Science

SERVICE & LEADERSHIP

GradSAC at *University of Utah* – Serving on the School of Computing Graduate Student Advisory Committee, which acts as liaison between graduate students and the administration.