Kajal Varma

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Education

- **Georgia Institute of Technology** — Atlanta, GA
  Master of Science in Computer Science (Computing Systems Specialization) — *Aug 2018 – Exp May 2020*
  - **Courses**: Advanced Operating Systems, Big Data Systems, Computer Networks, Network Security
- **Birla Institute of Technology and Science, Pilani** — Goa, India
  Bachelor of Engineering in Computer Science; GPA 8.64/10.0 — *Aug 2012 – May 2016*
  - **Courses**: Operating Systems, Computer Architecture, Data Storage Tech and Networks, Network Programming

Skills

- **Programming and Tools**: C++, C, Objective-C, Git, bash, HTML5, CSS3, Java (familiar), Python (familiar)
- **Environments**: Linux, MacOS, Windows

Work Experience

- **Intuit** — Bangalore, India

  Software Engineer II — *Jan 2018 – July 2018*
  - Cross-platform software developer for the TurboTax Desktop product for 5 million Windows and Mac customers.
  - Implemented and integrated a new technology stack built from scratch in C++ aiming to replace the existing legacy model. Also built a contingency module in Objective-C to ensure no negative customer impact.
  - Earned an Engineering Excellence Award for resilient rollout of the stack to half a million customers with zero customer issues.

  Software Engineer I — *Aug 2016 – Jan 2018*
  - Designed and developed critical business features on TurboTax Mac and Windows, such as recording hidden metrics to prevent fraud in e-filed tax returns, and a re-imagined co-browse feature used by at least 150,000 customers.
  - Owned the development of a standalone C++ library for use across Intuit teams and products with 95% code coverage and zero bugs in production.

  Software Engineering Intern — *May 2015 – July 2015*
  - Implemented a location-based service in Java to auto-populate address in the TurboTax Android application.
  - Developed an internal web application in PHP and Java/Android to produce expected screenshots of screens described by JSON representations.

Projects

- **Energy Estimation of High-Performance Computing Applications**
  Research thesis on prediction of energy consumption of an NVIDIA CUDA kernel through static analysis of compiled PTX code and power modelling of benchmarks on an NVIDIA GPU.
- **DTLB: Deterministic TLB for Tightly Bound Hard Real-time Systems**
  Deterministic translation lookaside buffer (DTLB) and cache design and simulation for hard real-time systems, to eliminate inter-task interference and obtain dynamic energy savings. DTLB paper published in IEEE VLSID 2017.
- **Real-Time Operating Systems – Scheduler Design**
  Implemented an Earliest Deadline First Scheduler with Stack Resource Policy (EDF-SRP) in C for a real-time operating system. Implemented a memory simulator GUI in Java to simulate the memory footprint of a task schedule. Extended the scheduler to perform dynamic slack time extension and minimize context switches for real-time tasks.
- **Raspberry Pi Surveillance System with Android Interface**
  Implementation of a surveillance system in Python using a Raspberry Pi Camera monitored through an Android app.
- **Linux Kernel Mouse Device Driver Implementation**
  Implementation of a kernel device driver module in C to change the brightness of the screen through mouse clicks.

Honors and Achievements

- **Engineering Excellence Award**: Intuit, Apr 2018
- **Winner, Intuit HackUtsav 2017**: Intuit, Jul 2017
- **All-India Rank 17**: National Cyber Olympiad, Jun 2011