New York City, NY

VIVEK BANSAL

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EDUCATION

Master's in Computer Science **Stony Brook University, New York** **Aug 2018 - Dec 2019 (Expected)**
GPA: 3.75 / 4.0 Coursework: Algorithms, Distributed Systems, Operating Systems, Data Science, Computer Vision

Bachelor's in Computer Science **Delhi Technological University, India** **Aug 2010 - May 2014**
Marks: 74.75% Coursework: Databases, Artificial Intelligence, Compilers, Networking, Data Mining
Amongst top 0.5% of the students who appeared for All India Engineering Entrance Exam (AIEEE) during year 2010

TECHNICAL SKILLS

Programming Languages: C++, C, Python, Java
Web Technologies and Operating Systems: HTML, CSS, JavaScript, XML, Linux, Mac
Tools: Git, GitLab, Perforce, PyTorch, TensorFlow, Jupyter, Scikit-Learn, OpenCV, VMWare Fusion, Jenkins, XCode

INDUSTRIAL EXPERIENCE

Software Development Intern **Adobe, New York** **Jun 2019 – Present**
Adobe Photoshop Engineering Team

- Optimized Composite Core layer of Photoshop by enabling Vector/SIMD processing to exploit data-level parallelism in the Graphics Processor Unit (GPU) which impacted 3.5 million active users of Photoshop. *C++*
- Enhanced Photoshop Image Engine (PIE) performance by incorporating multithreading over tiles in images. *C++*

Member of Technical Staff-2 **Adobe, India** **Oct 2015 – Aug 2018**
Adobe FrameMaker Engineering Team

- Built the SDK client which generated Document Health Report to find unresolved links in document. *C++*
- Designed feature of Most Recently Used files and Favorites files to show on welcome screen. *C++, CSS, HTML, JS*
- Executed the product from 32-bit to 64-bit architecture and devised inter-process communication via FIFO pipes to enable synchronous communication between 64-bit exe and 32-bit DLLs. *C, C++*
- Remodeled the code of Referencing dialogs (like cross-referencing) by using MVC architecture. *C, C++*
- Resolved Cadence issue by writing formatting rules inline in the XML file to enable postprocessing of it. *XML, C++*

Software Engineer **SanDisk, India** **Jun 2014 - Oct 2015**

- Implemented algorithms to efficiently store and retrieve the data from memory. *C*
- Formulated and created a new framework for compaction to increase the memory utilization by 8%. *C*

ACADEMIC PROJECTS

- **Encryption-Decryption System Call:** Developed a new system call to efficiently perform copy, encrypt and decrypt functionalities on an input file and used AES cypher algorithm for encryption and decryption. *C, Linux*
- **Backup Stackable File System:** Implemented a Stackable(layered) File System to create, view, restore and delete Backup versions of files and supported functionalities using extended attributes in the inode. *C, Linux*
- **View-Stamped Replication Algorithm:** Designed operations like normal, view-change and recovery of View-Stamped Replication to ensure reliability and availability and verified safety and liveness properties. *DistAlgo (Python)*
- **Kernel Debugging using Hacking options:** Incorporated modules like Spinlock, Slab Debugging, Deadlock Detection, Detect Workqueue Stall, Detect Stack Overflow, Soft Lockup to catch different bugs in the Linux kernel. *C, Linux*
- **Spam Filter Detection:** Built using Naïve Bayes model for Spam/Ham classification and used Laplace Smoothing to avoid overfitting which yielded performance metrics of precision 95% and recall 87%. *Python*
- **Executive Compensation Data Extraction:** Worked with Broadridge Financial Services to classify financial documents based on various data points. *Python, Random-Forest Regressor, Stanford NER tagger, Beautiful Soup*

ACHIEVEMENTS

- **Adobe Bravo Spot Award:** Fixed critical memory leak issue faced by multiple users. **Jun 2017**
- **Member of Adobe Technical Summit**: Selected for Technical Conference at Adobe HQ, San Jose. **Feb 2017**
- **SanDisk Gold Award:** Awarded "Execute and Exceed Gold Award" to lead a team of 6 members. **Jan 2015**