Kunal Baweja

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Education

- **Columbia University in the City of New York, USA**   Expected Dec 2017
  MS in Computer Science, GPA: 4.0/4.0
- **Birla Institute of Technology & Science, Pilani K.K. Birla Goa Campus, India**   Aug 2011 - May 2015
  B.E.(Hons.) in Computer Science

Professional Experience

- **Developer Intern, 1010 Data Inc (Systems Development Team)**   Jun 2017 - Aug 2017
  - Developed cache prototype for storing database files on local disks from persistent public cloud storage. It enables to start or stop compute nodes on demand in cloud and load data on demand.
  - Performance evaluation of C++, Java and Python SDKs of public cloud storage for cache system.
- **Research Intern at TSUNAMi Center, National University of Singapore**   Jun 2015 - May 2016
  - Developed and tested prototypes for research projects on secure filesystems, scaling blockchain transaction rates and defending data oriented attacks in linux kernel.
  - Implemented File Inclusion, SQL Injection and XSS tests for a web vulnerability scanner.
- **Software Developer Intern, Bentley Systems Inc., India**   May 2014 - Jul 2014
  - Developed item stock comparison for *Bentley Connect Interoperability Services* API to syncrhonize data among stakeholders and vendors for infrastructure projects.
- **Software Engineering Intern, Bharat Heavy Electricals Limited, India**   May 2013 - Jul 2013
  - Developed and released *Online Meeting Management System*, used by more than 2000 employees to organize paperless office meetings. Features: email reminders, file uploads and name search.

Selected Projects

1. **Hello World: Messaging sans language barriers** [https://devpost.com/software/hello-world-5v89re]   Sept 2017
   - Developed and deployed backend on Google App Engine, using Google Datastore for user profile storage and Firebase Realtime Database for delivering and synchronizing messages across devices.
   - Used Google text translation API for translating sender's messages to receiver's preferred language.
2. **Coverage Based Fault Injection Fuzzing** [https://github.com/akshaynagpal/cbfi]   Jan 2017 - May 2017
   - Detects security vulnerabilities caused by errors in execution environment of a program by simulating and permuting system call failures and analyzing program response/crash.
3. **Frame-Seller** [https://github.com/bawejakunal/Frame-Seller]   Jan 2017 - Apr 2017
   - Cloud based application for selling photographs. Developed and deployed using AWS API Gateway, AWS Lambda, SQS, SNS, Cloudwatch, Swagger and static frontend hosted on AWS S3.
   - Microservices implemented: email verification, asynchronous order processing and Stripe payments.
4. **Sigma Learn - Lecture to Notes** [https://github.com/bawejakunal/Sigma-Learn]   Jan 2017
   - Converts audio lectures to transcripts and summary in realtime using IBM Watson and Aylien APIs.
   - It can be helpful for students with hearing impairments and/or other physical disabilities.
5. **ParkWizard - Realtime Street Parking Information** [https://github.com/sas2387/ParkWizard]   Dec 2016
   - Rewards based android app to search and crowdsource street parking information, developed over AWS ElasticBeanstalk, SQS, SNS and Elasticsearch.
6. **A Secure Sharding Protocol for Open Blockchains [Accepted: ACM CCS-2016]**   Oct 2016
   - A distributed agreement protocol for committee based blockchains and scaling transaction rates.
   - Weblink: http://dl.acm.org/citation.cfm?doid=2976749.2978389
   - Authors: Loi Luu, Viswesh Narayanan, Chaodong Zheng, *Kunal Baweja*, Seth Gilbert, Prateek Saxena

Certifications & Technical Skills

- **Coursera.org Certifications**
  - Python For Everybody by University of Michigan (5 course specialization) [Certificate Link]
  - Machine Learning Foundations by University of Washington [Certificate Link]
- **Technical Skills**
  - C/C++, Java, Python, K(vector programming), JavaScript, HTML5, CSS3
  - Distributed Systems, SQL/NoSQL Databases, AWS, MVC Frameworks

Links

- Linkedin: https://www.linkedin.com/in/kunal-baweja
- Github: https://github.com/bawejakunal