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

- **Software Development Intern, Max2 Inc (Internet Edge Services)** Sept 2017 - Present
  - Developing microservices and applications for edge computing servers processing sensor readings from connected IoT devices.
- **Developer Intern, 1010data 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 on demand computational resource provisioning in cloud.
- **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 backend on Google Cloud Platform using Firebase Realtime Database for syncing messages across devices and Text translation API for translating message to receiver's 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. **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, Go, 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