

# 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 synchronize 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, 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>