

Kunal Baweja

bawejakunal15@gmail.com | <https://bawejakunal.github.io> | +1-914-689-5240

Education

- **Columbia University in the City of New York, USA** Sept 2016 - Dec 2017
MS in Computer Science
- **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 Engineer, Twitter Inc.** Feb 2018 - present
 - Architecture design, development and scaling for multiple components of recommended push notifications infrastructure serving several million notifications everyday to users
 - Building end to end recommended push notifications products through cross team collaboration
 - Improved various aspects of notifications experience with rigorous experimentation and analysis
 - Mentoring and coaching new team members
- **Software Development Intern, Max2 Inc (Internet Edge Services)** Sept 2017 - Dec 2017
 - 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.

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
 - AWS, Google Cloud Platform, Docker, Distributed Systems, Microservices, SQL/NoSQL Databases