

# BRIJENDRA NAG

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## Skills

### Programming Languages:

Java, C, HTML5, Racket,  
JavaScript, Node.js, SQL

### Tools:

Git, Unix, Bash, JSON, Android  
Studio, Facebook Graph API,  
Microsoft Cognitive Services  
APIs, Unity 3D, AWS, MongoDB

### Other:

Object Oriented Programming,  
Imperative Programming,  
Functional Programming, Data  
Structures, Algorithms, Social  
Media Marketing, REST APIs,  
Unit Testing, Black-box &  
White-box Testing

## Experience

### SpaceX Hyperloop Competition (Oct-Dec, 2016)

**Sponsorship** relations  
management & **Journalism** in  
**Waterloop**, the **only Canadian**  
**team** in the final round of the  
international SpaceX  
Hyperloop Pod Competition.

## Education

### University of Waterloo,

Bachelor of Computer Science  
(September 2016 – April 2021)

### Relevant Coursework:

Algorithm Design and Data  
Abstraction, Designing  
Functional Programs,  
Calculus I & II, Linear Algebra

## Awards

### President's Scholarship of Distinction, University of Waterloo

Awarded to students with  
admission averages of **95% or**  
**higher**.

## Projects

### Caffeine

March, 2017

- **Won 2<sup>nd</sup> Place** at **Start Hacks** for designing a product which prevents drivers from dozing off, hence **reducing accidents**.
- Integrated '**Muse: the brain sensing headband**', with an **Android App via Bluetooth**.
- Processed **real-time brainwave & accelerometer** data from **Muse** to track head-position in 3D and monitor brain activity.

### Cyphotron

March, 2017

- Implemented a **256 bit RSA cryptosystem** from scratch with **Java** and used the **BigInteger** data type for storing integers **dynamically**.
- Scalable and asymmetric **encryption algorithm** with a public key to encrypt the message and a secured private key to decrypt it.

### Euphorify

January, 2017

- Engineered a **web application** for social media at **PennApps XV** which analyses your Facebook photos and generates a collage.
- Utilized the **Facebook Graph API**, **Microsoft Emotion API** and set up a **node server** with **AWS** to process sensitive data securely.
- Integrated the two **APIs** asynchronously using **JavaScript & HTML**, efficiently sorted the obtained images to **generate a collage** containing **images of a particular emotion**.

### ReactOnFly

November, 2016

- **Chrome extension** built at **HackPrinceton** which automatically '**reacts**' to Facebook posts by detecting your reaction.
- **Brainstormed the concept** of the extension, integrated the **Facebook Graph API** with it and wrote a script in **Java** for continuously deleting redundant data from the server.

### Archify

November, 2016

- '**Ready for Emergency**' **Android app** built at **ArchHacks** which automatically requests help from an appropriate hospital.
- **Designed an algorithm** which chooses the appropriate hospital at any instance. Built the **back-end with Java** and implemented **database querying** with **CSV**, its integration with the app.

## Volunteering

### Hack the North

Waterloo, Canada

- Assisted in the **delivery of food** at the Hackathon.
- **Received participants** from other universities and ensured a smooth event by **floor patrolling**.

### Everyone Grows

Lucknow, India

- Provided **elementary education** to underprivileged children.
- Enrolled them into schools and **raised funds** for their fees.