

BOBBY RANJAN

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Education

Nanyang Technological University
MOE Tuition Grant Recipient
B.Eng. in Computer Engineering
Minor in Entrepreneurship & Life Sciences
CGPA - 4.60/5.00 | Ex. Graduation - June 2018

Vikhe Patil Memorial School
Grade 12 | CBSE Board Examinations
(A-level equivalent) | Science Stream
School Topper with 96.8% | May 2014

Skills

Programming Languages:

Java • Python • C# • C

Web Development:

HTML5 + CSS3 • JavaScript • jQuery •
Bootstrap • PHP • JSP • Django •
AngularJS • Node.js • MongoDB •
ActiveMQ

Other Software Skills:

Git • Heroku • SQL • Android • Firebase •
Spring • Gradle • JUnit • Roslyn

Hardware Skills:

Circuit Design • XPPAUT • MATLAB •
Arduino • ARM Cortex M4 • Raspberry Pi

Co-Curricular Activities

IEEE NTU Student Branch | Vice President
NTU Sikh Society | Publicity Director
NTU Model United Nations | Media
NTU Students' Union | Events Director

Selected Courses

Machine Learning
Computer Vision
Advanced Algorithms
Distributed Systems
Information Retrieval
Operating Systems
Introduction to Databases
Digital Systems Design
Software Engineering
Sensors, Interfacing & Control Systems
Computer Networks
Biostatistics
Biochemistry
Principles of Genetics
Entrepreneurship for New Ventures

Interests

Life Sciences • Hackathons • FIFA •
Football (Soccer) • Table Tennis • Singing

Fun Facts

- ✓ Invited to UC Berkeley in June 2013 for National Student Leadership Conference (NSLC)
- ✓ Possesses DELF A2 diploma in French from Ministry of Education, France

Experience

Bioinformatics Specialist | Genome Institute of Singapore

August 2018 - Present | Singapore

- Identifying cell-type populations in tumour single-cell RNA-sequencing data

Software Design Engineer Intern | BitTitan

May 2017 – August 2017 | Singapore

- Built customer-facing license consumption report for all BitTitan products
- Conducted tech feasibility analysis to improve BitTitan's reporting capacity
- Built code analysis tool to clean up database references across codebase
- Tech stack includes C#, SQL and Microsoft Roslyn

Technology Analyst Intern | Bank of America, Merrill Lynch

August 2016 – December 2016 | Singapore

- Used message queues to improve efficiency of payment processing system
- Built a proof-of-concept (POC) to help onboard new testers onto platform
- Tech stack includes AngularJS, Java Spring, ActiveMQ, MyBatis & SQL

President's Research Scholar | Nanyang Technological University

August 2015 – June 2016 | Singapore

Project Title: Composite mathematical modelling of calcium signalling behind neuronal cell death in Alzheimer's disease

- Used XPPAUT and MATLAB for modelling
- Paper published in BMC Systems Biology in April 2018
- Presented paper at APBC 2018 (Yokohama, Japan)

Selected Projects

ContextNewsBot | NUS Hack & Roll 2018 | January 2018

- A Chrome extension that provides a diverse set of news articles and objective Wikipedia links for any tweet on your Twitter timeline.
- Won **Top 8 prize & Most Socially Useful Hack** award at NUS Hack & Roll 2018.
- Uses a Flask server with Twitter and news APIs, and a custom NLP pipeline

Protein Interaction Networks | Final Year Project | August 2017 - Present

- Applied module detection and clustering algorithms to help researchers identify significant modules in Protein Interaction Networks (PIN).
- Developed Cytoscape plugin using Java; used Python for network analysis.

CommandPlus | NUS Hack & Roll 2017 | January 2017

- A Chrome extension providing hand gesture-based control of one's browser.
- Won **People's Choice Award** at NUS Hack & Roll 2017.
- Built using OpenCV, WebSockets and JavaScript.

CodeBot | Facebook Singapore Hackathon 2016 | September 2016

- CodeBot is interactive chatbot that helps beginners learn how to code with witty replies, GIFs and human-readable errors.
- Tech stack includes MongoDB, api.ai, Node.js, HTML, CSS & JavaScript.

When We Meet Again | NUS Hack & Roll 2015 | January 2015

- An Android app that uses the relative distance between users, determined using the phone's Bluetooth, to trigger a reminder/push notification.
- Won **Best Freshmen/Non-Tertiary Award** at NUS Hack & Roll 2015.
- Tech stack includes XML, Java (Android) & SQLite.

Achievements & Awards

Top 8 & Most Socially Useful Award | NUS Hack & Roll 2018 | January 2018

People's Choice Award | NUS Hack & Roll 2017 | January 2017

Best Freshmen Award | NUS Hack & Roll 2015 | January 2015

All India Rank 1820 | IIT JEE Advanced (India) | May 2014

All India Rank 3 scoring 98.2% | ICSE Board (O-level equivalent) | May 2012