

**NANYANG  
TECHNOLOGICAL  
UNIVERSITY**  
**SINGAPORE**

# Proposal for TimeWise

Team 0  
Lab group : SSP7

Group members	Roles
Mantri Raghav	Project Manager
Dwivedee Lakshyajeet	Development Lead
Harding James	Back-End Developer
Alex Bernini	Front-End Developer
Mittal Madhav	Release Manager
Xue Xueting	QA Engineer
Koh Hui Ling	QA Engineer
Lek Jie Ling	QA Manager

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## Executive Summary

TimeWise will be an application developed to meet the needs of students in NTU. The mobile application will allow students to automatically import the courses they have registered for the current semester through NTU's STARS system. This application will then show the user their classes for the next 7 days in a list format. The user can also add their own tasks and will be recommended 5 time slots in which they should add the task, keeping in mind their classes and current tasks.

Current solutions do not allow students to automatically import their weekly timetable. This forces students to manually enter their classes into their calendar or app. This is the problem which TimeWise seeks to address.

Keeping in mind software maintainability as well as ease of refactoring and programming, the application will be developed using the React Native framework which is compatible for both iOS and Android.

Team 0 will strive to build an easily maintainable, scalable, and user-friendly application which will be used frequently by the NTU student body.

## Statement of Problem

Productivity is crucial to college students. Organizing tasks and keeping oneself up-to-date with all the work and studies can help a student get good grades and make life easy and organised in college. Unfortunately, the current offering in the app stores fail to cater to the particular demands of the students.

Current apps like U-Wave<sup>[1]</sup>, which is the most widely used student app, only allow users to see their registered classes in a calendar format, instead of allowing them to add their own tasks as well. It is hence just a timetable with information just about schoolwork.

As we know, college life is much more than studies. Many students have CAs, group meetings, and personal tasks to do. They are unable to keep track of these using current apps. For this, they have to either install a separate application, write these tasks down on a piece of paper, or even just try and remember these tasks!

This is highly inefficient and can hamper the productivity of a student. There needs to be a one-stop application for keeping track of a student's schedule and allowing them to add their own tasks.

Team 0 is a team of 8 students who are highly skilled in developing scalable, maintainable, and user-friendly software in an agile manner. With experience in full-stack web development and app development, Team 0 is the perfect team for this job. The fact that the team consists of students who are the main user base of the proposed application is an added advantage.

## Objectives

This document proposes a mobile app TimeWise, with the objectives of:

1. Automatically importing the timetable of a student from the STARS planner

The user will use their NTU email and password to log into the app. The password will not be stored in our database. The email and password will be used to scrape their course information of the user from NTU's STARS system which will be stored on our database along with the user's email. The classes for the next 7 days will be sent to the client and shown to the user. Once a new semester begins, the user will be required to refresh their schedule. In case a class timing changes, the user will be able to edit the class timing. This will allow the user to keep track of their classes without having to manually copy it to their own calendar.

2. Allowing the user to add their own tasks

The user will be able to write down the name as well as the time of the task. Team 0 will create full CRUD capability in the server, allowing the user to create a task, read details about it, edit it, and delete it as well. The users won't be able to group tasks as of now. This feature will be worked on in the future. This is to allow the user to add tasks which are not just coursework related, hence making the app a one-stop solution for all students.

3. Recommending 5 free time slots to the user as they add their task

The application will be able to calculate free 1-hour intervals during the day and recommend these to the user while they are creating a custom task. If less than 5 time slots are left, only those time slots will be recommended which are valid. This is to make the process of adding a task faster for the student.

4. Notifying the user through notifications, 30 minutes before their task/class is scheduled

Since TimeWise will make sure the user enters a time for each task, the user will be notified 30 minutes before any upcoming task or class. This is to ensure that the user does not forget about any of their deadlines or classes.

## Technical Approach

Considering how often the features will be used on the go, the project shall be a mobile application. Before commencing the project, we analysed customers' needs to better understand which features we should focus on.

### Customer Needs

Since Team 0 consists of 8 NTU students, we have first hand experience in using scheduling applications as well as the STARS planner. Additionally, we conducted a survey of 56 NTU students to find out more about the problems which they face.

#### Common problems faced by NTU students

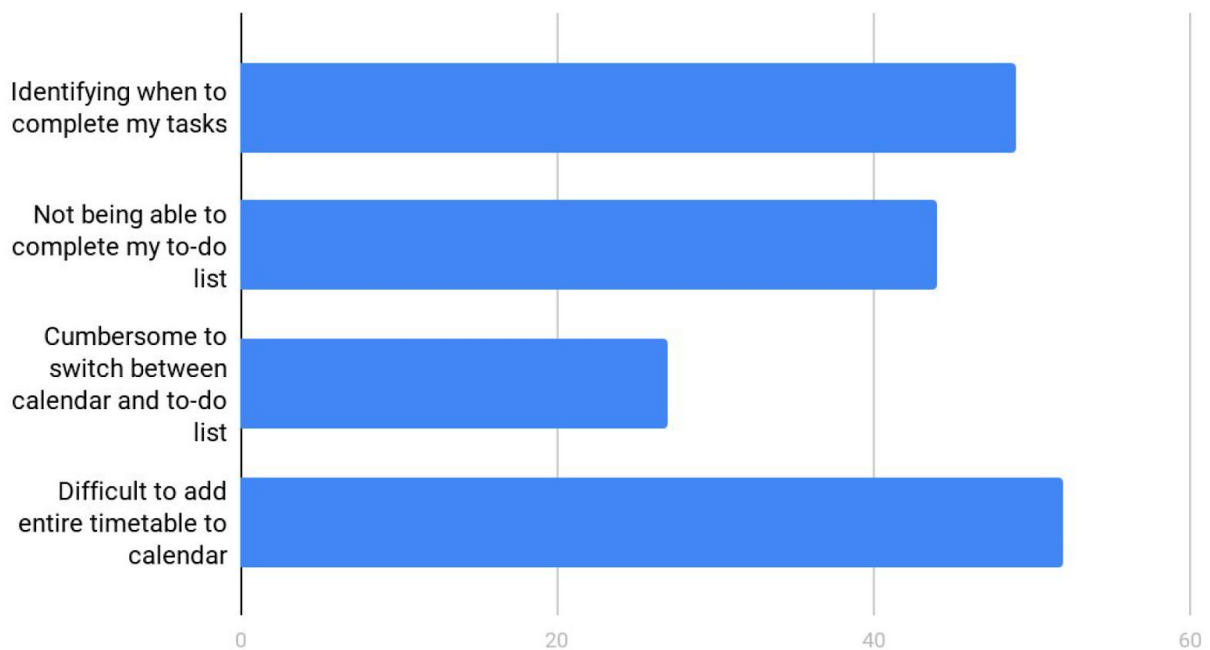


Fig 1. Survey on problems faced by NTU students

### Target Specifications

TimeWise will be a cross-platform mobile application since most students live a fast paced life and will be constantly changing their tasks on the go.

Since students find it *"Difficult to add the entire timetable to the calendar"*, the app will automatically import the student's class schedule from NTU's STARS planner. The users will also be able to add their own tasks. Since students indicated that one of their problems is *"Identifying when to complete my tasks"*, the app will recommend the top 5 time slots for completion of a task.

The ability to combine course details from NTU STARS planner as well as custom tasks will enable students to be a lot more productive since it is “Cumbersome to switch between calendar and to-do list”.

## Technology Consideration

Technology	Description
React Native <sup>[2]</sup>	<ol style="list-style-type: none"> <li>1. Cross-platform front-end framework, allowing developers to create both the Android and iOS application at the same time. This will reduce the workload and increase efficiency</li> <li>2. Integrated Context API which implements the Redux software architecture which will be described later</li> <li>3. JavaScript framework which is one of the most widely used languages</li> <li>4. Will be used for making the front-end.</li> </ol>
Express	<ol style="list-style-type: none"> <li>1. Server scripting framework built on top of the NodeJS framework which is written in JavaScript, which is one of the most widely used languages. Will allow seamless coding of both the front-end and backend in the same language.</li> <li>2. NodeJS is event-driven, non-blocking and asynchronous which makes it perfect for data-intensive real-time applications which will be used by a large student population.</li> <li>3. Will be used for making the server scripts and the API endpoints which the front-end will use to consume data.</li> </ol>
MongoDB	<ol style="list-style-type: none"> <li>1. NoSQL database which has easy integration with Express.</li> <li>2. NoSQL helps in boosting horizontal scalability and makes it easy to add more features later on, in case the data format stored by NTU changes.</li> <li>3. Fits perfectly with the JSON style data which is used by both Redux as well as JavaScript in general.</li> <li>4. Will be used to store information about user tasks and classes</li> </ol>

*Table 1. Technologies used for TimeWise*

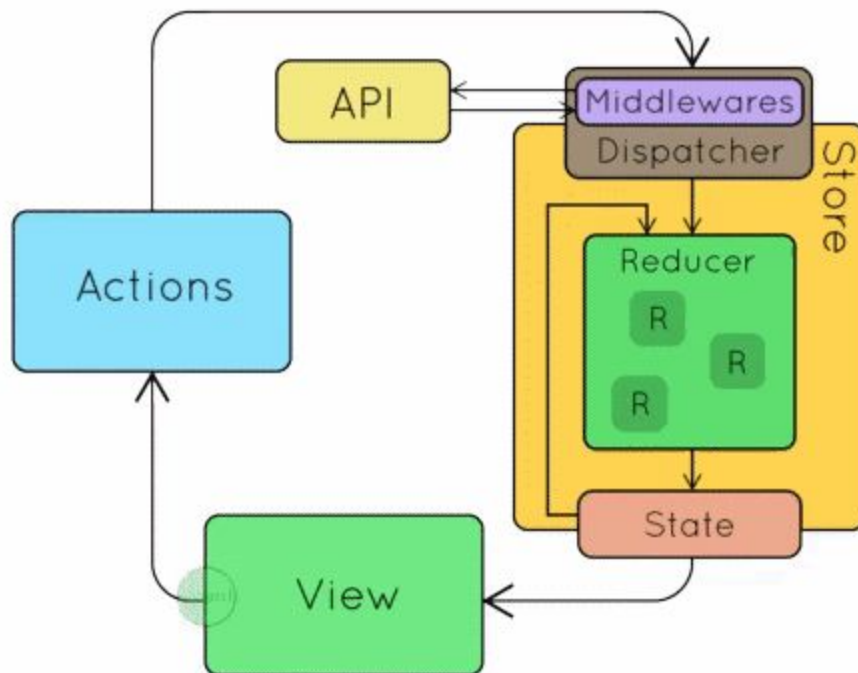
The advantage of the tech stack which is chosen is that all the components are based around JavaScript. This makes development more convenient and makes the code easier to understand as well.

## System Architecture/Platform

Tool/Platform	Description
Git	Widely used Version Control System
GitHub	Code hosting platform integrated with Git
Project Board	GitHub tool for assigning tasks by linking Issues and PRs
Travis CI	Free open-source continuous integration tool to make sure code is continuously tested before deployment
VSCode	Open source IDE with many extensions to improve developer efficiency
MLab <sup>[3]</sup>	MongoDB database hosting platform
Heroku <sup>[4]</sup>	Scaleable, pay-as-you-go server hosting platform with easy deployment using Git.

*Table 2. System tools and platforms for TimeWise*

The architecture used for TimeWise will be Redux which comes inbuilt with the React Native Context API:



*Fig 2. Diagram of the Redux architecture*

Redux is an enhanced version of the MVC architecture. It has the following main components:

1. Store: The store contains all the data for the entire client side application. The data is broken down into different collections depending on the concerns. E.g. User data collection, task data collection, etc.
2. View: The view is the UI which shows the data from the store and can be interacted with to launch actions.
3. Actions: Actions are functions which are called upon interaction with the View and dispatch requests to the backend API. It can be noticed that **Redux is the link between the front-end and the back-end**. The data received after an API call is sent to a reducer.
4. Reducer: Reducers are functions which take in data and modify the Store using this data.

It is apparent that Redux has separation of concerns. In fact, it separates concerns even better than MVC since the controller is split up into 2 parts - Actions which call the backend and Reducers which change the data in the Store.

Redux also ensures modularity and ease of adding new features since each different feature has its own set of Actions, Reducers, and Views. The Store is not coded manually but is generated dynamically so it does not change as more code is added.



# Project Management

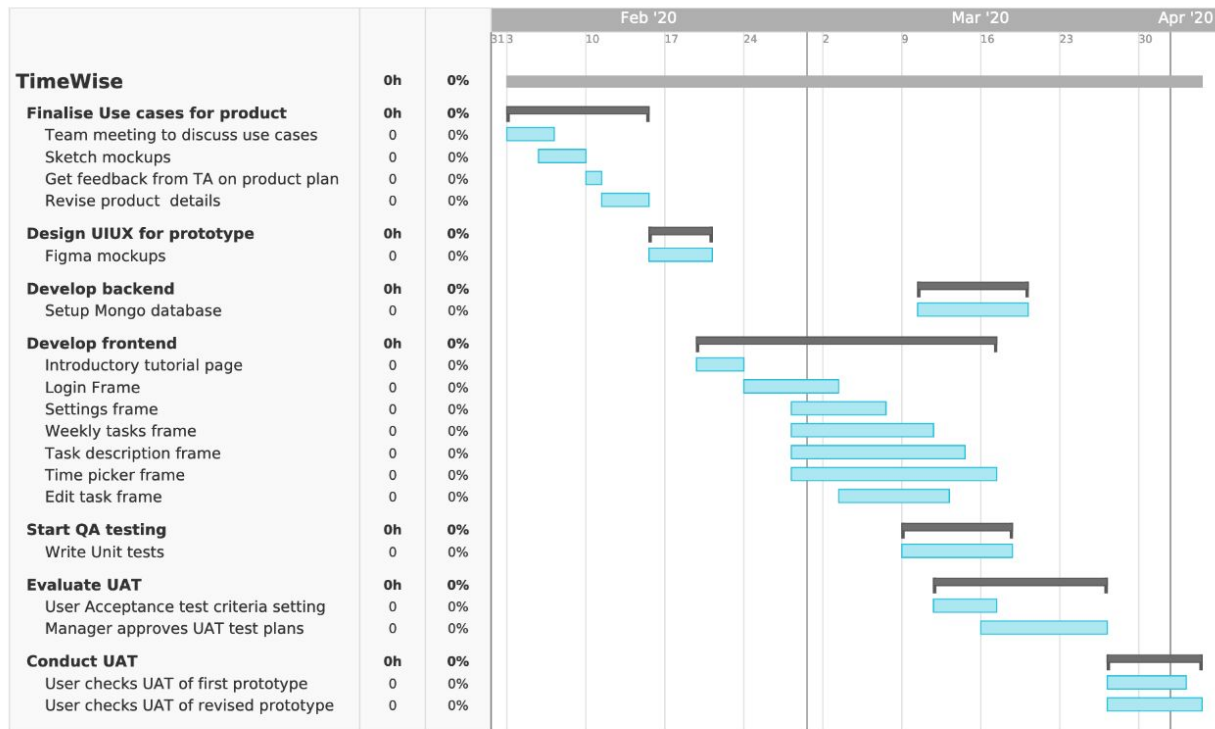


Fig 3. Project Timeline

Development will only begin after the details for the use cases and the design has been discussed with the supervisor. The frontend team would start development before the backend. QA tests designed and engineered by the QA engineer would start after a rough first version of the full stack of the app. UAT tests will be designed and carried out after the app is finished.

## Deliverables

The deliverables will include:

1. Android and iOS mobile application
2. MLab deployment with hosted MongoDB database
3. Heroku deployment with active server
4. Working interactive prototype using Figma
5. Detailed test cases and procedure
6. Computer program code for both front-end and back-end

## Budget

Item	Supplier	Quantity	Unit Price	Total
Project Manager		1	\$30,000	\$30,000
Project Team Members		7	\$3,000	\$21,000
Computers	Dell	8	\$1,000	\$8,000
Publication License	Google, Apple	2	\$100	\$200
Server	Heroku	1	\$2,800	\$2,800
Database	MLab	1	\$15,000	\$15,000
Office Rent	NTU	1	\$6,000	\$6,000
			<b>Total</b>	<b>\$83,000</b>

*Table 3. Budget predictions for TimeWise*

## Communication and Coordination with Sponsor

Our sponsor will be able to receive updated emails and cost estimates on a bi-weekly basis after every scrum meeting unless requested otherwise. Sponsor will also be able to be invited to any related meetings and/or conference calls.

## Team Qualifications

The link to resumes of the team members are provided in the last section of this proposal (Appendix A)

1. Mantri Raghav - Has previous experience with Software Engineering Documentation. Skilled in programming with JavaScript frameworks like VueJS, React and Node.
2. Dwivedee LakshyaJeet - Has developed numerous mobile applications using the Flutter framework as well as many MERN (MongoDB, Express, React, and Node) web applications.
3. Mittal Madhav - Well versed with application building languages like Flutter and React Native, and has developed apps using both. Able to use the concepts taught in the Software Engineering module to build robust and cohesive programs.
4. James Sebastian Harding - Has worked on a number of projects previously similar elements to the task in question, for example, web scraping. I have also had experience with a number of different programming languages and with developing apps previously.
5. Lek Jie Ling - Amazingly meticulous Quality Assurance master with a lot of experience in testing and back-end development using NodeJS and the Express framework.

6. Koh Hui Ling - Has experience with Software Engineering documentation. Has created websites and applications before using Java and C#. Versed in frameworks like Node and AngularJS.
7. Xue Xueting - Has experience on Software Engineering documentation from past projects. Developed several apps and webs using languages like Java, JavaScript and C#.
8. Alex Bernini - Experience in software engineering and development, having previously worked in a software engineering placement within a Big Data team, developing a front-end web application for the platform using Python and various frameworks using Agile and Behaviour Driven Development software development methods

## References

1. NTUSU, "U-Wave", <https://www.ntusu.org/u-wave> (Singapore, Singapore: NTUSU, 20 August, 2019)
2. Facebook, "React Native:", <https://facebook.github.io/react-native/> (Menlo Park, CA: Facebook, 11 January, 2020)
3. MLab, "Plans and Features", <https://mlab.com/plans/> (San Francisco, CA: MLab, 25 August, 2019)
4. Heroku, "Free Dyno Hours", <https://devcenter.heroku.com/articles/free-dyno-hours> (San Francisco, CA: Heroku, 1 November, 2019)

# Appendix A: Resumes of Team Members

## Lakshya Jeet Dwivedee

laksh22.github.io | linkedin.com/in/lakshya jeet-d | github.com/laksh22

### PROJECTS

#### HackLyst.com – Social Media Platform using MERN Stack Dec. 2018 – Present

- Designed responsive front-end using React and custom CSS theme developed using Sass.
- Built REST API using Express to serve data stored in MongoDB database using Mongoose schemas.
- Implemented Redux architecture for state management across dynamic multi-page website.
- Utilized JSON Web Tokens and bcrypt for user registration and authentication.
- Deployed website on Linux VM using nginx server – <https://www.hacklyst.com>

#### ParkEasy – Flutter mobile application Aug. 2019 - Nov. 2019

- Utilized Material Design principles to translate design mock-ups into cross-platform UI in Flutter.
- Queried APIs and represented data using list view and the Google Maps API for Android.
- Used MVC architecture and observer pattern to enable parallel development and extensibility.
- Collaborated with 6-member team in creation of functional requirements, class diagrams, and test scripts as part of SDLC.

### WORK EXPERIENCE

#### Software Development Intern - Qwerty Thoughts May 2019 – Aug. 2019

- Created WYSIWYG text editor with 20 features in React using Draft.js with Express back-end for querying APIs.
- Utilized Bootstrap framework to improve user interface of the text-editor.
- Prepared web-scraping scripts using Twitter API and Selenium to gain insights on book trends.

#### Embedded Software Developer - Nanyang Venture Aug. 2019 – Present

- Utilized custom widgets written in C++ to develop dual-TFT screen dashboard for Hydrogen Fuel Cell Vehicle.
- Built custom power-meter with increased accuracy using ADC for Hydrogen Fuel Cell Vehicle.
- Made C++ script to log Battery Management System data over CAN bus to SD card for Autonomous Vehicle.

#### Undergraduate Researcher - Nanyang Technological University Aug. 2019 – Present

- Developed lane segmentation script for roads using T-DBSCAN in Python.
- Prepared foreground and background extraction scripts using OpenCV in Python.

### SKILLS

- **Languages – (Proficient)** JavaScript (ES6), Python, Java, Dart, C++, C. **(Familiar)** Ruby, C#, SQL.
- **Development – (Proficient)** HTML5+CSS3, React.js, Node.js, Express, MongoDB, React Native, Flutter, Git, Redux. **(Familiar)** Ruby on Rails, .NET, Sass, Docker.

### EDUCATION

#### Nanyang Technological University Aug. 2018 - Dec. 2021

B.Eng. Computer Engineering

Singapore

- 4.78/5.00 GPA, Accelerated Bachelor's Program
- NTU Entrepreneurship Society – Technical Director (AY18/19)
- NTU Open Source Society – HackOSS Admin for Data Analysis (AY18/19), TGIFHack Chair (AY19/20)
- Courses – Software Engineering, Algorithms, Data Structures, Operating Systems, Object Oriented Programming

### ACHIEVEMENTS


- HackNTU – Best Overall Hack and Best Freshman Hack – Constructed dashboard in React 2019
- Yale-NUS hack4climate Datathon – 2<sup>nd</sup> Best Hack – Implemented fraud detection algorithm 2019
- YITU Hack-AI-Thon – Top 10 Object Detection Models 2019
- GICxSCSE TechFest – 3<sup>rd</sup> Best App – Made and deployed Flutter mobile app 2019
- iNTUition Hackathon – 2<sup>nd</sup> Best Hack out of 53 – Created webpage to test Selenium script 2018
- Anit CyberBuzz Programming Competition – 1<sup>st</sup> Place 2016




# RAGHAV MANTRI

Hardworking student with passion for Software development, web development and entrepreneurship

47-1-889, 24 Nanyang Avenue  
Singapore, Pin code – 639811

 [mantriraghav11@gmail.com](mailto:mantriraghav11@gmail.com)

 <https://github.com/raghavm1>

 <https://linkedin.com/in/raghav07mantri>

## Experience

### URECA-NTU, Undergraduate Researcher

August 2019 – Present

Undertaken a project that explores foreign exchange prediction and trading strategies using deep neural networks.

### Momentum Software New Delhi, Summer Intern

Jun 2019 – Jul 2019

Learnt web development using VueJS and JavaScript as well as backend using Express and Axios, collaborated with team to work on a revamp of a Danish travel website.

## Education

### Nanyang Technological University, Singapore – B.E in Computer Engineering

A year 1 full time student, currently under Accelerated Bachelor Program – going to graduate in 3.5 years instead of 4

CGPA - 4.26/5

### Delhi Public School Gurgaon Sector 45, India – India Standard 12

Attained 95% in Indian Standard 12 (CBSE) Exams

Attained CGPA of 10/10 in Class X.

Quizzing head – NODE (School's Information Technology Society)

House Captain - 2018

Cultural Secretary – 2017

## Skills

**Programming Languages** – C++, Python, C, Java, Dart

**Development** – NodeJS, ExpressJS, React, VueJS, MongoDB, Flutter, Git

**Python Libraries** - ScikitLearn, NumPy, Pandas, Seaborn

## Volunteering

**Team Shiksha Kendra** - Taught basic maths and distributed food to the underprivileged in India.

**Volunteer** - Rex ConCLive talk held in DPS Gurgaon, 2017

## Awards and Achievements

**Accelerated Bachelor's Program – School of Computer Science and Engineering, NTU**

An invitation-only program which allows high achieving students to graduate in 3.5 years instead of 4.

**Gold Medal – Delhi Public School**

Awarded Gold Medal for consistent academic excellence over a span of 9 years (2009 - 2018)

**Gold medal for Zonal excellence (10th position in city)**

Awarded Gold medal for being the top 10 rankers in the City for National Cyber Olympiad (NCO)

## Co curriculars

### NTU Entrepreneurship Society, President

September 2019 – Present

\* Heading all initiatives and projects by ES,

\* Organising events every week for entrepreneurship aspirants in NTU

\* Contacting entrepreneurs and co-founders to come down at our events,

\* Renewed collaboration with iNTUitive and Nanyang Technopreneurship Centre

### IEEE NTU Student Branch, Logistics Director

September 2018 – August 2019

1. Led the logistics and operations team to plan and organize event flow.

2. Established processes to increase operational efficiency for the incoming committees.

3. Liaised with the vendors for hosting the event

4. Organised the largest Hackathon in NTU, with over 220 participants

### OpenSourceSociety, Subcommittee member

Jan 2019 – September 2019

Worked in understudy, in charge of redesigning NTUOSS's TGIFHacks website

## Selected Coursework

\* Software Engineering

\* Algorithms

\* Operating Systems

\* Object Oriented Programming

\* Data Structures

\* Introduction to Computational Thinking

## Selected Projects

**WellnessForecast** – A website for predicting wellness based on various factors in countries from 2018-19 to 2030. Was responsible for front-end and machine learning using Scikit learn, pandas and NumPy.

**ParkEasy** – A parking app for getting real-time parking data enabling users to find car park spaces within 5km ranges on an Android and iOS app



# Madhav Mittal

*Student, Developer, Programmer*

E-mail [MADHAV006@e.ntu.edu.sg](mailto:MADHAV006@e.ntu.edu.sg)

Github: MittalMadhav

Phone (+65) 9397 3021 | (+91) 88003 64080

I want to learn about new technologies to solve existing problems and bring about a positive change in the society. I want to create elegant solutions and develop new products to empower people with modern technologies.

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## EDUCATION

Aug 2018 – Present      Nanyang Technological University  
Bachelor of Engineering in Computer Engineering  
Expected Honours (Distinction) CGPA: 4.20/5.00

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## INTERNSHIP EXPERIENCE

Jan 2018 – May 2018      Intern  
SAP Solutions

- Working as a junior intern, I was given the task of creating a chat-bot for the company Facebook Page using SAP Conversational AI
- Learnt new languages and concepts online, and use them for real applications
- Understood how the industry works in real life

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## PROJECTS

- ParkEasy: App to find parking lots in Singapore in real-time
    - Built on Flutter
    - Built the Software using sophisticated software practices taught in 'Software Engineering' course
  - Timewise (ongoing project): Productivity app that lets you merge your NTU timetable to your google calendar
    - Working on front-end of the app, using react native
- 

## SKILLS AND COURSEWORK

- Programming Languages – Python, C, C++, Java, JavaScript, React Native
- Frameworks and Environments – Eclipse, NodeJS, Flutter
- Basic skills – Microsoft Word, Excel, PowerPoint, Adobe Photoshop
- Event Management – Organized events in CCA's like Institution of Engineers, Singapore and Red Cross Youth
- Knowledge of algorithms, and studied Data Science and Artificial Intelligence through NTU modules
- Software Engineering and Advanced Software Engineering completed in NTU, thus have basic knowledge of good Software Engineering practices.



**Lek Jie Ling**

## **RELEVANT WORK EXPERIENCE**

### **Three Arrows Capital — *Software Developer Intern***

- Designed an automated Cryptocurrency OTC (over-the-Counter) trading system to automate most of the current manual OTC trading to eliminate manual client and broker processes

### **Nanyang Technology University Research Project Assistant — *Web Developer***

- Developed chat-bots and human behavioural experiments using ReactJS (Redux), NodeJS and AWS Polly Text-to-Speech API
- Deployed apps on Google Cloud Platform to be used by 200 surveyees

### **Temasek Holdings — *Software Engineering Intern***

- Developed backend and frontend applications with ReactJS (TypeScript), NodeJS, Flask to implement business logic and deployed with Kubernetes, Docker and AWS technologies

### **Gigacover — *Software Engineering Intern***

- Built and integrated an autonomous pipeline into backend for processing insurance claims using

## **RELEVANT EDUCATION**

Nanyang Technological University,  
Computer Science (Bsc)  
2016 - Current

Raffles Institution  
2014 - 2015

## **RELEVANT SKILLS**

Powerpoint  
React, Node, Go, Python, Java, iOS, Android



## James Harding

+447770456392

jamessharding@outlook.com

Innovative and analytical third year undergraduate who has experience in software development and IT support/maintenance. Enjoys working within a team and has had experience with project management. I am self-motivated and enjoy pursuing my own projects which focus on learning more within the field of machine learning, computer vision and graphics.

## Education

University of Essex

**Current since 2017** | BSc in computer science

- Obtained CCNA 1 qualification with a grade of 100% which was part of my networking module.
- Currently doing an exchange year at Nanyang Technological University where I have recently finished a group project which involved developing an educational game in unity for android.
- I have been awarded the Devdas Korappath Gopel Prize and have been put on the dean's list for my university for both of the 2 years I have studied there in recognition of my academic achievements.
- Currently working at a first, with my second-year grade being 90%.

Leventhorpe Academy

**2010-2017**

- A-levels: Computer Science, Economics, Mathematics.
- 11 GCSE's (A\*-C) including English and mathematics.

## Experience

**Software Development Intern | 2015 (1 month)**

Vennersys | Centre House, Court Parade, Aldridge, WS9 8LT

- Worked as part of a team in the development of the online Epos ticketing system.
- Learnt about the tools and technologies commonly used as well as the work place environment.

## Skills

**Teamwork and team management**

- I gained experience in working in a team and was project manager during my first-year project where, we had to work together to produce software for a timetable robot. It scraped our university timetable from the university website, adding it to a database.
- I also was scrum master and helped with managing my second-year group project in which we were tasked with creating a financial portfolio manager in Java.

**Problem solving**

- During my second-year group project I had to find solutions to changing specifications within a team.

**Programming languages and Technologies**

- Proficient in/with – Java, Python, C++, C, C# (including the .NET framework), VB, Javascript, PHP, Matlab, MySQL, HTML5, CSS, Jira, IntelliJ (and others in the JetBrains suite), Eclipse, visual studio, android studio, Github and Gitlab.

## **KOH Hui Ling**

Mobile No.: 93230975 | Email: huiling2804@gmail.com | [www.linkedin.com/in/koh-hui-ling](http://www.linkedin.com/in/koh-hui-ling)

### **EDUCATION**

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<b>Nanyang Technological University</b>	<b>Aug 2018 – May 2022 (Expected)</b>
<b>Bachelor of Computer Science</b>	

<b>Nanyang Polytechnic</b>	<b>Apr 2015 – Mar 2018</b>
<b>Diploma in Financial Informatics</b>	

- Director's List for Semester 1, Academic Year 2015/2016.

### **WORK EXPERIENCE**

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<b>OCBC Bank</b>	<b>Apr 2018 – Jul 2018</b>
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#### **Operations Analyst**

- Aided to process account opening of different types of accounts for Equities timely and accurately.
- Helped to photocopy documents and ensured it tally at end of day.
- Mentored new colleagues of how to open various types of accounts.

<b>NTUC Fairprice</b>	<b>Dec 2014 – Mar 2015</b>
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#### **Part-time Cashier**

- Utilised a cash register to ring people up, collected payments and return change and a receipt and also wrap or bag purchase item.

### **INTERNSHIP**

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<b>OCBC Bank</b>	<b>May 2017 – Aug 2017</b>
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#### **Intern**

- Succeeded in procuring documents essential for different reviews and print out.
- Abetted in testing system by building customer profile and google search for accuracy of data.

### **CO-CURRICULAR ACTIVITIES & COMMUNITY SERVICES**

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<b>Concert Band</b>	<b>Jan 2011 – Dec 2014</b>
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#### **Secretary**

- Recorded attendance, obtained money required and claim consent forms.
- Met weekly with leaders for assigned tasks, assisted other student leaders.

#### **Section Leader**

- Led a team of 4 members to play trumpet in a performance.
- Managed efficient operations of section, completed weekly inspections, maintained field discipline.
- Provided instruction, served as positive role models, and supported drum majors.

### **SKILLS**

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Programming Skills: Java, C#, C, ASP.NET, C++

Scripting Skills: HTML, HTML5, CSS, JavaScript, XML, AngularJS, UML

Databases: SQL, MySQL, IBM Cloudant, Firebase

Digital Skills: Microsoft Office, Eclipse, Eclipse JEE, Visual Studio, SAS, Android Studio

Languages: Proficient in English and Mandarin, Elementary proficiency in Korean

# XUE XUETING

## SOFTWARE ENGINEER

### PERSONAL PROFILE

Hard working individual who is driven and responsible for all tasks that are assigned.  
Seeking to develop new abilities knowledge from this Software Engineer position.

### WORK HISTORY

#### Customer Service Officer

ARVATO DIGITAL SERVICE PTE LTD/MICROSOFT, 2018

Handling queries from customers via email and replying according to queries. Provide excellent customer service and support to client. Working closely in a team with other departments to assist clients. Reporting on cases status daily for manager.

#### IT helpdesk Intern

ST ASSETS MANAGEMENT LTD, 2017

Configured laptops and replacing it for all staffs. Backed up of all archive data for company.  
Performed all other ad-hoc duties assigned by supervisor.  
Troubleshooted of all PC problems for all staffs.

### CONTACT DETAILS

Address: 21 Sembawang Crescent #09-03  
Singapore 757053  
Home: 66898135  
Mobile: 87273802  
E-mail: x.xueting@gmail.com

### ACHIEVEMENTS

Nanyang Polytechnic

- Director List Award, Year 2016/2017 Semester 2
- Good Progress Award, Year 2015/2016 Semester 2

Regent Secondary School

- Achieved certificate for Top Student Award for preliminary examination (2014)
- Won first in place for school anniversary sport carnival, Tag Rugby, for team event (2014)
- Greatest improvement award (2014)
- Top 10% in (2010 and 2011)
- Letter of commendation (2012)

### ACADEMIC BACKGROUND

#### Nanyang Technological University

BACHELOR OF COMPUTER SCIENCE, 2018-2022

#### Nanyang Polytechnic

DIPLOMA IN FINANCIAL INFORMATICS, 2015-2018

Leadership position – team leader for various school project  
Community Service – NKF National Kidney Foundation Centre

### SKILLS & INTERESTS

Programming Skills: Proficient in Java, Visual Basic.NET, C#, C, C++  
Scripting Skills: Well-versed in HTML, CSS, JavaScript  
Databases: Conversant with use of SQL, MySQL  
Software Skills: Conversant with Microsoft Office, Microsoft Visual Studio  
Business Analytical Skills: using SAS  
Spoken Language: Fluent in spoken and written English and Chinese

# Alexander John Bernini

## Personal Details

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Third-year BSc Computer Science student with experience and skills in software engineering and web application development.

## Education

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**Aston University (September 2017 – 2021) – BSc Computer Science – First Year Result: 2:1**  
Modules of first year include Java Development, Mathematics for Computing Professionals and Information Systems and Databases including the latest aspects of the Computer Science field such as 'Big Data' and Man-Machine Symbiosis

**Outwood Grange Academy (September 2014 – August 2016) – A Level Results**  
I.C.T – B      Psychology – B      Mathematics – C      Physics (AS Level) – C

**Outwood Grange Academy (September 2009 – August 2014) – GCSE Results**  
12 GCSEs – 1 A\* (Mathematics), 6 As (Including English Language/Literature and Further Science), 5 Bs

## Work Experience

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**Leonardo – Software Engineer Industrial Placement**      July 2019 – December 2019

- Joined a small team within the company developing a Big Data platform for processing radar flight data
- Took on primary role of developing a web application to act as a front-end for interacting with the various data processed through the system
- Developed software using Python, utilising the Django web framework, and learnt how to interact with the Hadoop Big Data Platform through it
- Used Agile software development methods and Behaviour Driven Development ideology and testing

**Aston University JobShop – Marketing Assistant**      March 2018 – June 2018

- Contact various companies advertising job vacancies to advertise their vacancies on the university's internal job listing website for students to browse
- Gained various marketing skills in how to talk with various company managers and sell the product
- Managing a solo project creating a 'Virtual Jobs Fair' for the university to present through Facebook, collating companies to present a live stream to promote their job vacancies and answer student questions live over the internet

**NHS Yorkshire Ambulance Service – NHS 111 Band 3 Call Handler**      Nov 2016 – Sep 2017

- Conduct an over-the-phone triage and provide medical assistance/advice for the individual's condition
- Enhanced my ability to work in high pressure situations, dealing with potentially life-threatening incidents daily



- Maintained an excellent call handling statistics record including short call time, professionalism and achieving the correct outcome and advice through the system assessment in monthly assessments

#### British Heart Foundation - Volunteer Shop Assistant

Feb 2015 – Jul 2015

- First experience providing customer service, assisting customers in the store and distributed new product to produce a comfortable and easy-to-navigate environment

### Extra-Curricular Activities

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**SEO London** – SEO Careers Engineering Engagement Programme – Invited to a two-day event with SEO, earning the unique chance to speak to notable figures in the engineering field, providing CV, group collaboration and interview training, concluding with a speed-networking session with multiple companies including Rolls-Royce, Siemens and BAE Systems

**Aston University** – Computer Science Student Representative – Collect and transfer views and opinions of the students to the course directors to create a better experience and improve education throughout the course. Attend regular meetings with the course directors and other figures of the university to solve matters raised

**Aston Computer Science Society** – Member – Attend 'Hackathons' and Hackathons, and attend/help with student ran sessions, to enhance my programming and Computer Science knowledge

**Duke of Edinburgh Bronze and Silver Award** – Demanded organisation due to the necessity of time keeping on the expedition, as well as team-work through delegating tasks and navigating. Involved volunteer work at 'Beavers'

**STEM Big Bang Fair Contestant** – Produced a psychological study comparing the use of social media and self-esteem using various academic methods

### Key Skills

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**Computer Skills** – Java (strong), C# (Unity) (moderate), HTML, CSS, JavaScript (Web development - Strong), Microsoft Office (Word, Excel, Access, PowerPoint - Strong), Video editing/production (Sony Vegas Pro)

**Problem Solving Skills** – Displayed resilience throughout education in tackling computational-oriented tasks, including producing an adventure game with a team of students with little external help, to be fully downloadable, playable and possibly placed on an online marketplace

**Communication Skills** – Excellent English communication skills – development throughout work experience speaking to a variety of customers, as well as education presenting team projects developed over several months (e.g. 1<sup>st</sup> level achieved in Computational Reasoning group project presentation)

### General Interests

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**Guitar** – Partly self-taught, performed in local pubs with fellow music enthusiasts

**Piano** – Progress through multiple piano grades throughout first and secondary school

**Badminton** – Played in secondary school after-school club, team moved onto regional competition