

# Jugraj Singh

COMPUTER SCIENCE & MATHEMATICS STUDENT

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## Personal Profile

I am currently enrolled in a dual degree program of Bachelor of Advanced Computing (Honours) and Bachelor of Mathematical Sciences at The Australian National University (ANU). As a self-motivated ANU student, I am looking for new challenges in systems development that involve the use of my computing and mathematics skills. My areas of interest such as Data Structures, Software Development, Systems Architecture and Algorithm Design keep me continuously developing and innovating within them. I have acquired skills in Computer Systems, Mathematical Modeling along with Problem Solving and Critical Thinking, which I believe put me in a good position to make a valuable contribution to a computing team.

## Skills

- Languages:** Python, C, C++, Haskell, JavaScript, SQL, JAVA, CSS, HTML, Assembly (ARMv6-M, QuAC & x86-64).
- Frameworks:** Spring, Azure, Flutter, DotNet, Linux, Shell, Power Platform, MS Office, Firebase, Git.
- Soft Skills** Leadership, Critical Thinking, Time Management, Teamwork, Problem-solving, Decision Making, Management.

## Education

### Australian National University (ANU)

Canberra, AU

Bachelor's of Advanced Computing (Honours)

2026

- Courses:** Algorithms, Software Engineering, Software Construction, Relational Databases, Systems Networks & Concurrency, Computer Organisation, DBMS, Networks.

### Australian National University (ANU)

Canberra, AU

Bachelor's of Mathematical Sciences

2027

- Courses:** Advanced Mathematics and Applications 1, Advanced Mathematics and Applications 2, Introduction to Mathematical Thinking: Problem-Solving and Proofs, Applied Mathematics I, Advanced Algebra 1: Groups, Rings and Linear Algebra.

## Work Experience

### Software Development Intern

Remote

Macrew Technologies Pvt. Ltd.

July 2024 - Dec 2024

- Working under senior engineers on real projects.
- Learn their agile process and contribute to code, testing & deployment.
- Achievements:** Shipped two production apps in 12 weeks, helping Macrew retain its 99% client-satisfaction score.
- Technical Skills:** JavaScript (React), Node.js, Flutter (Dart), MySQL/PostgreSQL, MongoDB, Git&GitHub, Jira, Bootstrap, Docker.
- Soft Skills:** Teamwork, Time Management, Critical Thinking, Management, Communication, Presentation skills.

### Head Teacher

Canberra, AU

Code Camp - Burgmann Anglican School

8 July 2024 - 10 July 2024

- Had active discussions with young minds
- Introduced peer-review "show-and-tell" sessions that improved student engagement scores by +18% (post-camp survey).
- Achievements:** Helped 20+ students build their first scratch game.
- Technical Skills:** Scratch coding
- Soft Skills:** Leadership, Teamwork, Time Management, Teaching, Management, Communication, Presentation skills.

## Projects

### Dynamic Memory Allocator

C Project

- Developed a malloc equivalent in C using explicit free lists.
- Implemented minimal fragmentation and improvement of memory reuse.
- Achieved constant time coalescing with the help of boundary tags.
- Technical Skills:** C, Valgrind, Assembly, Extensive GDB debugging.
- Soft Skills:** Time Management, Presentation skills, Report writing, Code organisation.

**Bulletin - App**

App development Project

- Designed a reddit like app with user creation and deep level real time news tracking.
- Implemented quick search using AVL Tree
- **Technical Skills:** Java, Data Structures, Algorithms, Firebase, Cloud.
- **Soft Skills:** Presentation skills, Leadership, Teamwork, Logical Thinking.

**Entangled EcoSphere**

A fun open project

- Interactive artwork closely resembling the famous "Rain World" game.
- Used JavaScript and a combination of three scenes to make it immersive and dynamic.
- **Technical Skills:** JavaScript, HTML, Git.
- **Soft Skills:** Artist Statement writing, Creative Thinking, Project Organisation, Time management.

**Achievements** 

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2025	<b>Data Analytics Job Simulator</b> , Forage	Online
2024	<b>AWS Certified Cloud Practitioner CLF-C02</b> , Amazon Web Servies	Online
2023	<b>Academic Mentor</b> , Wamburun Hall	Australia
2020	<b>District Level Badmintion Player</b> , Amritsar	India

**References available upon request.**