

# Jatin Kumar Sharma

Bachelors of Computer Science and Marketing Minor

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Github:

Portfolio:-

## SUMMARY

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Third-year Computer Science student at UNSW (Marketing minor) graduating Aug 2026, focused on systems, networking, and security. Built multiple course and personal projects - from a TypeScript quiz-game backend to a Python end-to-end encrypted chat - emphasising clean APIs, testing and measurable outcomes. Seeking **Software/Backend/Security Engineering internships (2025–2026)**.

## TECHNICAL SKILLS

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- **Languages:** Python, TypeScript/JavaScript, SQL (PostgreSQL), POSIX Shell (dash/sh), HTML/CSS, Java, C.
- **Systems & Networking:** Sockets (TCP/UDP), HTTP/1.1, Wireshark, DNS tooling, Linux CLI.
- **Security & Crypto:** Public-key crypto basics, X25519, HKDF, XChaCha20-Poly1305, threat modelling.
- **Data & Tools:** PostgreSQL, PL/pgSQL, Git, Make, Regex, Markdown.
- **Concepts:** Consumer behaviour frameworks, Brand analysis (from Marketing Minor).

## SOFTWARE PROJECTS - UNSW & PERSONAL

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### Dungeon Mania — Java (OOP, Clean Code) (Team of 2)

- Refined original game code using SOLID OOP principles to enhance readability, testability, and maintainability.

- Applied clean-code practices and modular design to reduce code smells and improve efficiency.

### **Local “mygive” Clone — POSIX Shell (dash)**

- Built a local submission/marking workflow (submit, autotest, snapshot/rollback) that mimics UNSW mygive while remaining POSIX-compatible.
- Implemented file-integrity checks, deterministic diff/compare vs a reference, and timestamped archives under .mygive/ with precise exit codes and usage messages.
- Emphasised zero unnecessary dependencies and portability to pass reference-style tests.

### **Kahoot-style Quiz Backend — TypeScript, Node.js, HTTP (Team of 5)**

- Implemented backend logic for real-time quiz sessions; correct HTTP status handling for create/join/score flows.
- Led sprint planning/task division and wrote unit tests; integrated with a provided frontend.

### **End-to-End Encrypted Chat (Double-Ratchet-style) — Python, asyncio, Rich-TUI**

- Relay-based chat with X25519 + HKDF key agreement and XChaCha20-Poly1305 message encryption for forward secrecy.
- Authored a concise threat model; captured packet-level evidence to validate security goals.

### **Online Discussion Forum (TCP & UDP) — Python**

- Implemented client/server for multi-user messaging; focused on protocol design, edge-case handling, and robust logging.

### **CheeseDB — SQL & PL/pgSQL (PostgreSQL)**

- Wrote complex queries (joins/aggregations) and PL/pgSQL functions/views; maintained schema variants.

## **EDUCATION**

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**University of New South Wales (UNSW), Sydney**

*Bachelor of Computer Science with (Minor in Marketing)*

**Sep 2023 – Aug 2026 · WAM: 75+**

## ACTIVITIES & INTERESTS

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Coursework-driven builds (network measurement, shell tooling, SQL design); running and home-based fitness.