

Dan Wendon-Blixrud

University of Cambridge


EDUCATION (A LEVELS, UNI)

A* Computer Science A* Mathematics
A* Further Mathematics A* Physics

Computer Science, BA Hons, 2021-2024
University of Cambridge, Queens' College

PERSONAL DETAILS

DOB: 2002/09/03
drw48@cam.ac.uk

github.com/dantechguy 

RECENT PROJECTS & TECHNICAL SKILLS

2023 **3D renderer for low-end devices** / *Flutter, Dart*

- Optimised for single-core high-level code, rendering polygons without a Z-buffer
- Polygon key-based caching for O(n) sorting algorithms and high performance
- Implements view-culling and O(1) lookup algorithm to prevent rendering unneeded meshes
- Custom vector algebra equations to calculate partial ordering for rendered polygons

2022 **Personal Website** / *React, JS, HTML, CSS*

- Project portfolio with tag filters, responsive web design, and accessibility tab components

2022 **PC remote-access app** / *C++, QT, Java, Kotlin, Android, AES & RSA*

- Prototyped in C++, developed into Kotlin and Java mobile client and desktop server
- Emulates custom input devices, e.g. tablet & stylus as graphics tablet, phone as a trackpad
- Designed and implemented secure custom AES & RSA based network protocol
- Received 80/80 for my A-Level project

2022 **Production-ready remote-access app** / *Flutter, Dart, Windows API, MacOS Quartz*

- Re-made with Flutter for full cross platform support, native API interfacing with custom plugins
- In talks with companies interested in custom integration with their workflow
- Supports device screen and webcam streaming, multi-user gamepad emulation

2022 **Auto face-tracked video captioning** / *NodeJS, JS, HTML, CSS*

- Led a team of 4 to win 24-hour hackathon's major sponsor prize
- Developed browser extension for automatic face-tracked, multi-speaker captioning on web videos

2022 **Production-ready revision app** / *Flutter, Dart, Firebase, iOS, Android*

- Improving over stale flashcard app market with a focus on social and little-and-often learning
- Reactive UI programming with Flutter framework
- Data sync, social interaction, and auth via Firebase

2022 **Dependency to-do app** / *Flutter, Dart, SQL, iOS, Android*

- Highly focussed on "What can I do right now?", for people with many dependency-related tasks
- Custom dependency resolution algorithms shows only actionable tasks

2021 **Assembly GameBoy game** / *z80-esque assembly*

- Faithful re-creation of Flappy Bird with 8KiB RAM using only assembly
- Enjoyed gaining a holistic understanding of the system with the original 1999 documentation

2021 **Live real-time multiplayer game** / *NodeJS, JS, Redis, custom rendering framework*

- Three iterations refined different approaches to real-time sync, state management, and reactive UI
- Custom server-side rendering and small-scale microservices design

2021 **Self-learning game solver** / *Python, Dart, GUI*

- Probabilistically finds optimal winning solution for any game from any position
- Highly optimised custom graph analysis to properly handle cycles with memoisation and branch pruning

2019 **Scratch to Python transpiler** / *Python, metaclasses, PyQT5*

- Source-to-source compilation and intuitive API for teaching kids to program – used in school
- Individually developed PIP libraries built upon each other for event handling, GUI, and compilation

LEADERSHIP & ACHIEVEMENTS

- 2022- **Stack Overflow student ambassador** for Cambridge University, running and organising inter-year present social events and hackathons.
- 2022 **Won Cambridge University hackathon prize** as a first-year first-time team out of 28 teams. Project management, delegation, communication, and adaptability needed to get each module developed independently to spec, and later combined into the final product.
- 2021- **Elected Cambridge student representative** for computer science two years running. Reliability, present communication skills, and proactive agency needed to work with teams of staff and students to raise, discuss, and solve large-scale issues and run year-wide events.
- 2019 **Awarded Arkwright engineering scholarship** for computer science, one of only 400 people in the country. Received project funding, cyber security training and industry exposure.
- 2019- **Certificates of Excellence in Computer Science** and Mathematics awarded by Suffolk One Sixth-2020 Form College.
- 2017- **Raised £4000** by developing software for charity events.
2019

EXPERIENCE

- Volemic** **AI & cybersecurity startup software engineering intern.** Built and fixed real features across all 2023 services (AWS, Python backends, React frontend), helping retain and scale for more customers. E.g. achieved 1000x speedup of frontend rendering and backend processing (100s to 0.1s), analysed email RFCs to finish bringing product to iOS, re-designed frontend and pitch deck to win £20-70K pa customers, and designed and made spear phishing product. Offered return position as part time SW dev and design consultant during my studies.
- CyberFirst** **GCHQ cyber security training** with cyber forensics industry experts. Learned advanced theory 2020 on encryption, malware, and data obfuscation, as well as practical skills in penetration testing, OSINT, and forensic data recovery.
- Agent3** **Python, Docker, and big data** processing at a digital ABM company. Created a Python 2020 automation tool which is actively used to setup and launch configurable Docker containers on their Raspberry Pi cluster.
- Itineris** **Fast-paced team web development**, using PHP and CMSs for full-stack development. Worked 2018- on real client websites worth £100K+, and during work experience created an automation system 2019 to speed up mass media uploads by 5x. Was consequently invited back for a summer position.