

# TAN KHAI KHIANG, MARK

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## EXPERIENCE

### BESI SINGAPORE PTE LTD

May 2022 - Aug 2024

Advanced semiconductor assembly machines manufacturing company

#### Software Engineer

- Developed C++ embedded software features for wafer production processes and calibration assistants to improve the precision of machines.
- Debugged and implemented software solutions related to SECS/GEM communication protocol (specifically wafer and substrate mapping), reducing pick-and-place error rate in production.
- Authored comprehensive technical documentation (prerequisites, step-by-step procedures and diagrams, use cases), improving ease-of-use and clarity for customers.
- Collaborated with Software Testers to provide initial feature effort estimations and recommended alternative solutions to the Product Manager for feature request orders.
- Analyzed log files and parameter dumps to identify root causes of issues which were documented in JIRA, reducing repeated investigation efforts and customer downtime.
- Rendered urgent on-site software support in Nanjing, China for 2 weeks, assisting in securing a major pending machine order worth an estimated SGD 6 million.

### DBS BANK LTD

May 2021 - Oct 2021

#### C2MA (Analytics) Intern

- Improved Grafana dashboards, providing clearer and more comprehensive monitoring of Presto clusters, therefore supporting early issue detection.
- Validated metrics by cross-referencing datasets in Kibana and Apache Superset to ensure data accuracy and applicability.
- Restored and enhanced the user interface for an internally used web application using VueJS, in preparation for future development.

## EDUCATION

### SINGAPORE MANAGEMENT UNIVERSITY

Jan 2026 - Oct 2027

#### Master of Science in Economics (Applied Economics)

Relevant Courses: TBD

### SINGAPORE INSTITUTE OF TECHNOLOGY (SIT) & DIGIPEN INSTITUTE OF TECHNOLOGY (DigiPen)

Jul 2020 - May 2024

#### Bachelor of Science in Computer Science and Game Design [Degree is conferred by DigiPen, USA]

Relevant Courses: C, C++, Algorithm Analysis, Databases, and others

**Awards:** Finalist of Best Sophomore Technology, in DigiPen (Singapore) Awards 2020

## ACADEMIC PROJECTS (GAME PROJECTS)

### Red Is the Enemy

2021

- Worked on a 3D first-person shooter game in the capacity of a Level Designer and General Programmer (C++, C#).
- Implemented a 3D positional sound engine using the FMOD library, enabling volume modulation by proximity.
- Emulating Unity3D's entity component system, designed and wrote logic (C#) for 2 of 3 game levels.

### Rush!

2020

- Worked on a 2D platformer game in the capacity of Producer and General Programmer (C++).
- Managed the team's task backlog such that the project was completed on schedule with minimal crunch time.
- Independently created and managed a robust bug-reporting spreadsheet, ensuring that software issues were documented, reproduced, patched, and verified.

## ADDITIONAL

- Technical Skills: Strong in C, C++, C#; familiar with Python, SQL
- Software Proficiencies: Ubuntu, Git/BitBucket, Qt Creator, Unity3D
- Language Skills: English; Chinese
- Awards: Bronze in 2014 Singapore Canoe Marathon, 14km Open Men Category
- Interests: Strength and physical conditioning training with the goal of competing in Hyrox 2027; Adventure travel, including a 230km cycling tour around Jeju Island (2025)