Austin **Dibble**

Software Engineer · Master's Student

Glasgow, UK

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Summary

Current master's student in Advanced Computer Science with Artificial Intelligence. I have 4+ years of industry experience in software engineering and embedded systems engineering.

- M.Sc in Advanced Computer Science with Artificial Intelligence. Expected graduation September 2023.
- B.Sc. in Electrical & Computer Engineering. Graduated in 2020 Summa Cum Laude.

Education

University of Strathclyde — *Glasgow, UK*

M.Sc. Advanced Computer Science with Artificial Intelligence — *Sept. 2022 - Sept. 2023*

- **Relevant Coursework:** Deep Learning for Visual Computing, Statistics & Bayesian Analysis, Artificial Planning.

Oregon State University — *Corvallis, OR, USA*

B.Sc. in Electrical and Computer Engineering — *Sept. 2015 - Mar. 2020*

- **Cumulative GPA:** 3.93 / 4.0 (UK 1st class equiv.).
- **Minor:** Spanish.
- **Relevant Coursework:** Machine Learning & Data Mining, Digital Image Processing, Analysis of Algorithms, Probability, Discrete Mathematics, Electronics & Digital Logic, Physics, Signal Processing.

Work Experience

Siemens Digital Industries Software — *Wilsonville, Oregon, USA*

Software Engineer — *Apr. 2020 - Present*

- Refining performance testing and improvements on Linux systems for Siemens' EDA product, improving process runtime by 40%.
- Operating within a cross-cultural and international team to coordinate bug fixes and performance improvements for customers around the world.
- Developing new UI features in a C++ environment, while utilizing the newest compiler and language features.
- Cooperating across departments to develop new features and performance improvements that meet the needs of a diverse customer base.

Semiconductor Research Corporation — *Corvallis, Oregon, USA*

Undergraduate Researcher — *Oct. 2019 - Mar. 2020*

- Collaborated with postgraduate students in digital signal processing for analog to digital converters.
- Investigated novel algorithms for improving the performance of A-to-D converters when operating in noisy and non-linear environments.
- Designed MATLAB simulations to analyze the performance of digital signal processing.

IND LLC — *Vancouver, Washington, USA*

Embedded Systems Engineer — *Jun. 2019 - Apr. 2020*

- Innovated firmware for ARM MCU to communicate and control physical processes such as temperature, humidity, pressure, and fluid flow via Internet communication.
- Managed the design and development of a new touch-screen display interface that featured an ARM Cortex-M7 processor, Bluetooth LE, Wi-Fi, and GPS.
- Coordinated with the hardware team, designing new schematics to meet customer requirements.
- Created firmware in C/C++ and an embedded GUI using uGFX.

IND LLC — *Vancouver, Washington, USA*

Software Engineering Intern — *Jun. - Aug. 2017, Jun. - Aug. 2018*

- Pioneered a GUI in Java 8 (JavaFX) for automating on-site server organization of employee data.
- Resolved software issues and communicated solutions to customers remotely.
- Initiated development of new control hardware, using 32-bit ARM Cortex-M4 processors with an RTOS (real-time operating system).
- Utilized processor datasheets to write new peripheral libraries, resulting in 30% increased efficiency.
- Formed and documented a new development toolchain for embedded C firmware.

Projects

Dermascopic Melanoma Image Segmentation and Classification using Deep Learning *Dec. 2021 - Mar. 2022*

Achieved near state-of-the-art performance on segmentation and classification of melanocytic lesions using MobileNet classifiers and MaskRCNN. Inspired by the work of Phillips et al.

Link to more information.

Identifying Regulatory Single Nucleotide Polymorphisms Using Machine Learning *Jan. 2020 - Mar. 2020*

Compared machine learning models trained to identify regulatory single nucleotide polymorphisms in non-coding regions of the genome. Specifically, we attempted to reproduce results obtained by Yao et al. with their CERENKOV model. We found that training on equal class sizes affects model performance more than either the method used to split training and validation sets or the type of network employed.

Link to more information.

Universal IoT Device (Senior/Bachelor's Project) *Oct. 2018 - May 2019*

Developed a secure IIoT system for use in industrial settings. Key features included a secure, real-time operating system (RTOS) and multiple communication channels: UART, SPI, I2C, PWM, and full-stack Internet (UDP, TCP, HTTP).

Link to more information.

Autonomous Self-Charging Robot *Nov. 2017 - Apr. 2018*

Directed a team to develop a fully operational autonomous robot. Features included real-time computer vision self-guidance, infrared communication, line-following behavior, and navigation to a charging station upon low battery detection. Achieved highest technical award at exposition.

Link to more information.

Skills

Development	Python, C++/C (x86, embedded), Java, JavaScript, bash, MATLAB.
Software Tools	PyTorch, OpenCV, OpenGL, Visual Studio.
Hardware	Schematic capture, PCB layout, STM32 ARM Cortex-M4 & M7.
Languages	English (native speaker), Spanish (CEFR B2).

Honors & Awards

University of Strathclyde

2022 **Faculty of Science Masters Scholarship for International Students**: Scholarship awarded on a competitive basis to candidates who demonstrate excellent academic performance.

Oregon State University

2019 **Orin F. Zimmerman Scholarship**: Awarded to a single student on the basis of aptitude and interest in fostering environmentally acceptable and socially productive knowledge, innovations, and applications in electrical technology.

2019 **2nd Place Technical Award**: Senior Capstone Project Exposition.

2018 **Knaus Electrical Engineering Scholarship**: Granted to one student on basis of GPA from among the top 10% of their class.

2018 **1st Place Technical Award**: Junior Design Project Exposition.

Extracurricular Activity

University of Strathclyde Faculty of Science

PGT Student Representative *Oct. 2022 - Sep. 2023*

- Communicated with fellow students to address their concerns and feedback.
- Collected survey feedback data and presented to the student-staff liaison committee.
- Programme improvements were made on the basis of my feedback and recommendations.