Pascal Lasnier

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EDUCATION

2020 – present **University of Cambridge, St. Catharine's College**
Engineering, 4th year student
Class I BA (rank 40 of 277 in Year 3)
Studying for MEng in Aerospace and Aerothermal Engineering
(modules incl. Computer Systems and Algorithms & Data Structures)

2018 – 2020 **Richard Huish College, Taunton** (A-Levels)
Mathematics (A*) Computer Science (A*) Physics (A*)
Further Mathematics (A*)

2013 – 2018 **Bishop Fox's School, Taunton** (GCSEs)
7 Grade 9s (incl. Mathematics, Physics, Computer Science, and English Language)

PROFESSIONAL EXPERIENCE

Siemens Cambridge Software Internship | 2023 | C++, Rust (WASM), TypeScript

- 12-week summer internship at Cambridge office;
- Contributed to Siemens NX C++ codebase;
- Worked with dev tools team:
  - Wrote VSCode extensions;
  - Implemented asynchronous client-server system in Rust using WebSockets.

PROJECT EXPERIENCE

4th year Engineering Project | 2023, ongoing | Python

- Individual project for MEng;
- Modelling of 1-D thermoacoustics networks:
  - Ongoing design challenge involving thermodynamics problem;
  - Involves constructing system as linear algebra problem;
  - Using `numpy` Python library to solve system.

2nd year Engineering Robot Project | 2021 | Arduino C++ | *github.com/pylasnier/idp205*

- Software lead of six-person team group project to design an autonomous robot;
- Task involved navigation within an arena to search and collect small dummies;
- Developed an understanding of the limitations of microcontrollers and how to work around them, especially memory constraints;
- Learnt alternatives for debugging a microcontroller system when breakpoints, watches, and other debugging features are not available.

A-Level Computer Science NEA | 2019 – 2020 | C# | *github.com/pylasnier/functional-studio*

- Designed an explicitly simply typed pure functional programming language, featuring:
  - functions as first-class citizens and higher-order functions,
  - selection and recursion,
  - a basic type system including integers, floats, and bools (arrays are possible as indexing functions, but no polymorphism or type constructors other than function types);
- Developed an intermediate representation (IR) that implements this language;
- Built a translator, including a tokeniser and a parser that produce the described IR, featuring a rich error system including type checking;
- Packaged the whole interpreter with a simple IDE built using Windows Forms.

ACTIVITIES AND INTERESTS

Languages	English (native), French (proficient, GCSE Grade 9)
Computing	Linux user, command line-confident Programming: C(++), C#, Python
Music	ABRSM Grade 6 Piano (Merit) ABRSM Grade 5 Music Theory (Merit)
Sports	Badminton (University Development Squad and college captain) Olympic-style Weightlifting
Extra-curricular	Duke of Edinburgh Award: Bronze (2019), Gold (ongoing) Volunteer at local library (Taunton)

Referees available on request