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Education

Bachelors, Computer Science (2014-2017) University of Cambridge

2015-2016: graphics, networking, concurrent systems, probability/fourier, C/C++, Prolog, compilers, complexity, databases, AI, security, language semantics.
2014-2015: Functional programming (ML), Digital electronics, Discrete mathematics, OOP, Algorithms, Operating systems, Physics, Mathematics

High School, 2010-2014 - Torrey Pines HS, San Diego. 10-12 GPA: 4.69 (3.92 non-weighted)

Technical Skills

Languages: Python, Java, HTML/CSS/JS/TS/React, ML, C/C++,

Python, Java, Web technologies learned through multiple Android projects, web frontends and backends (often in Python). ML/C were taught as part of the Cambridge CS curriculum. Used JS/TS extensively at Autodesk in 2016, along with C++ in the AutoCAD product.

Databases: MySQL

MySQL was learned during the LAHacks hackathon (see below) for implementing the backend, and advanced during the 2015 Summer internship (extensively modified webshop database).

Applications: MATLAB, Mathematica, Eclipse, Git

MATLAB was part of the Cambridge NST 1A Mathematics course. Mathematica was part of the high school Advanced Topics class. Experience in Eclipse from Java/Android development. Picked up essential Git for version control and sharing code.

Additionally, exposure to: OpenGL, Prolog, System Verilog, RISC assembly.

Experience

Intern, Autodesk Inc. (San Francisco) | *Summer 2016*

Prototyped advanced collaborative features between multiple clients using AutoCAD at the same time. First built a model of AutoCAD data structure using web technologies (JS/TS), then explored problem in this simplified space. Secondly extended AutoCAD (C++) to include some of the basic collaborative features from the simplified model.

Intern, TNG Technology Consulting (Munich) | *Summer 2015*

Worked as part of an agile (Scrum) team of software developers for a client wanting a web-shop to complement their physical store. Required interacting with the client's representative regularly; configured Lobster Data application to convert data between two formats required by different servers. Debugged web-frontend Javascript of Hybris webshop and extensively modified backend SQL database for webshop upgrade.

Cambridge Year 2 Group Project | *2016*

Leader of a team that built an effective interface for exploring large sets of forum text by topic and sentiment, in order to extract conclusions of value to the sponsoring company Jagex. Worked on web front end and backend sentiment analysis pipeline and the database.

Jane Street Hackathon (x2) | *2014, 2015*

Part of a team that competed in Jane Street's Cambridge hackathon two years in a row.

Volunteer, Anvil.works startup | *Spring 2015*

Assisted founder of Anvil.works with developing a HTML Canvas graphics library that can also be used for basic physics simulation (Python)

LAHacks | *Spring 2014*

Co-wrote large part of an Android app and Python/SQL backend to organize meetups between friends, and rate participants on tardiness; also employed Twilio SMS API, position tracking

Science Fair, Year 2 | *2013*

Localizing impacts in 2-D using three accelerometers, an Arduino, and wavelet analysis (majority of code in Arduino C and Python)

1st place award category, Acoustical Society of America award, Marine Technology Society award. YALE Science and Engineering Association award, Intel Excellence in Computer Science Award

State level: Society of Petroleum Engineers award

Science Fair | *2012*

Localizing impacts along 1-D lines using two piezoelectric sensors and an Arduino (majority of code in Arduino C and python)

2nd place award category; Acoustical Society of America & Society for non-destructive testing awards

Intern, Department of M.E. San Diego State University | *Summer 2013*

Wrote Python cleanup scripts for professor's teaching material. HTML, CSS webpage editing

Intern, IT Department Birch Aquarium At Scripps | *Summer 2012*

Helped with linux system administration, set up sandboxed information kiosks, Helped employees with computer issues

Torrey Pines HS ACSL (American Computer Science League) | *2010 - 2014*

President of club 2013-2014. Taught variety of topics such as boolean algebra, DE, etc.

Torrey Pines HS Botball autonomous robotics team | *2010-2014*

Team leader 2013-2014. Team placed 3rd in 2014, 1st in 2013, 1st in 2012, 2nd in 2011

Personal Projects

FFT based lights/music sync – A set of LED lights synced to beats in music using a real time FFT processed on an Arduino.

Trinity Hall Room Selection system – a website that reads college's google document linking students to rooms and visually fills in the floor plans with everyone's details. Uses

HTML/JS/CSS/SVG frontend and Python backend.

Trinity Hall June Event Webmaster – create website for college's yearly end of the year ball – http://joshuasend.me/JE/v1_TokyoToKyoto/index.html & http://joshuasend.me/JE/v2_Metropolis/index.html

Political Information Website (Australia) [in progress] – working with Australian politics student to help cure the general political apathy present in Australia, especially among youth

Other Skills & Experience

Languages – English (fluent), German (fluent), Spanish (medium level)

Sport – Tennis (10 years including high school varsity level), Rowing

Hobbies – Producing wooden bows and archery, Skiing, Reading, Hiking, Camping