Pádraig Ó Conbhuí

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EXPERIENCE

Dublin Web Summit Limited   Dublin, Ireland
Technical Analyst   *Summer 2012*

Evaluated new technologies for use in projects. Built and maintained applications for internal and external use. Analysed and modified applications to handle higher user loads as necessary.

- Developed browser based app leveraging Facebook's JavaScript API to find users attending a Facebook event and list them in order of mutual friends with the current user, displaying those mutual friends, and showing which of them were also attending the event. This was tested against an event of about 3000 attendees and loaded results in several seconds.

- Analysed ticketing system used for event, identified features causing the system to slow to an unacceptable pace when the user base grew large enough and suggested alternative approaches.

- Implemented caching and distribution of content through a CDN for the main site when hosting servers began straining under high traffic.

- Researched IaaS platforms, deployments in cloud environments and NoSQL database systems for use with apps being built in house.

LULI, Ecole Polytechnique   Palaiseau, France
Intern   *Summer 2011*

Investigated alignment errors found in experiments which used an ellipsoidal plasma mirror.

- Set up computer simulation of experimental setup using Zemax optics software.

- Investigated alignment errors due to geometric effects using ray tracing models, and compared them to diffractive errors by using wave front propagation models.

- Set up a physical optics bench to attempt to reproduce the errors, and play about with the system.

EDUCATION & TRAINING

University Of Edinburgh   Edinburgh, Scotland
MSc, High Performance Computing   *2012 to 2013*
Grade: MSc With Distinction

Course centred around building high performance applications, primarily through parallelisation, and through deep understanding of the underlying architecture of a given system and language.

Subjects: Message Passing Programming, Threaded Programming, Parallel Numerical Algorithms, Parallel Programming Languages, HPC Architectures, HPC Ecosystems, Performance Programming, Software Development, Advanced Parallel Programming, Parallel Design Patterns.

Trinity College, Dublin   Dublin, Ireland
BA Mod, Theoretical Physics   *2008 to 2012*
Grade: 2.1

Course taught problem solving and analytical thinking, providing tools necessary to break down and understand complex problems, primarily in the fields of Mathematics and Physics. Joint effort by both the School of Maths and the School of Physics, this course offered training as both a mathematician and a physicist. Training aimed primarily towards understanding condensed matter physics from the physics side, and quantum field theory and general relativity from the maths side. Completed a dissertation on performing particle physics calculations on GPUs using CUDA C.

Subjects: Computer Simulation, GPU Programming, Classical Mechanics, Quantum Mechanics, Classical Field Theory, Quantum Field Theory, Special Relativity, General Relativity, Classical Statistical Mechanics, Quantum Statistical Mechanics, Condensed Matter Physics, Spectroscopy, Optics, Electromagnetism, Thermodynamics, Electronics, Chaos and Complexity, Linear Algebra, Analysis, Topology.

Coláiste Eoin   Dublin, Ireland
Leaving Certificate   *2002 to 2008*
Grade: 9 Honours - 570/600 points
Secondary level education done entirely through the Irish language. School focused on promotion of the Irish language by requiring Irish be spoken by students during school time and by encouraging extracurricular activities such as debating through Irish, Irish music and Irish sports.

Subjects: Math, Applied Math, Physics, Chemistry, Geography, English, Irish, Latin, French.

SKILLS

Software Development
Many projects, both personal and course related, and in a wide variety of languages, completed to date. Interested in web development, specifically in building highly scalable web applications. Great interest in high performance programming. Like to keep up to date with popular programming techniques and paradigms whenever possible. Employ Test Driven Development when possible as building reliable systems is also an interest.

Languages and frameworks listed either used extensively in coursework or in professional projects.

Projects:
> github.com/poconbhui
> bitbucket.org/poconbhui

Technologies:
> Bash, C, C++, Fortran 90,
> MPI, OpenMP, Cuda C, UPC, Coarray Fortran,
> Mathematica, Zemax, Gnuplot, LaTeX,
> HTML/CSS, JavaScript, CoffeeScript, PHP, Ruby,
> Ruby On Rails, Node.js, jQuery,
> SQL, CouchDB, MongoDB, Redis, Neo4j

Problem Solving
Training in Theoretical Physics fostered a strong ability to analyse complex problems and devise and implement solutions to them. Training in High Performance Computing encouraged the application of these skills to creating highly performant code to solve problems.

Music and Performance
Good stage presence and public speaking skills from years of playing with bands. Constantly working on improving skills on bass.

Awards

- Included on TCD Dean of Students' Roll of Honour 2011.

- Awarded an Entrance Exhibition to Trinity College Dublin based on outstanding achievement in Leaving Certificate examination.

- Received full college scholarship "Scoláireacht Neamhteoranta" for outstanding results in Irish language exams in the Leaving Certificate.

- Several book prizes for results for result in Summer exams.

- Won battle of the bands, Coláiste Eoin, 2008.

- I think Paddy is a pretty cool guy. Eh codes warez and doesn't afraid of anything.