

Anthony Youd

anthony.youd@gmail.com

<http://www.anthonyyoud.co.uk/>

SUMMARY

I am an experienced software engineer and system administrator, with particular expertise in the C++ and Python languages, and database management and backend website development in Unix/Linux operating systems.

I have 4 years' commercial development experience in roles requiring significant mathematical and problem solving skills, and ten years' experience providing face-to-face specialised IT support to the wide-ranging needs of a large academic department.

I work efficiently, to deadlines, equally well as part of a team or individually, and I have excellent communication skills.

IT SKILLS

Software Engineering

- I am an experienced C++ software engineer, writing object-oriented code on a daily basis.
- Wherever possible, I follow test driven development practices (particularly regression testing and unit testing with *googletest* and *googlemock*), and make a point of writing well-commented code.
- I have experience of developing graphical end-user applications with Qt.
- I regularly solve problems of a mathematical and geometrical nature, and formulate algorithms in pseudo-code, before translating them into production C++.
- I work in a continuous integration environment, with SVN and git source code version control, and follow the Scrum development practice.
- With a background in computational mathematics, I have extensive knowledge of the Fortran 90 programming language, and data visualisation software, such as IDL, and I have written several publication quality papers and manuals. (I have a github account at <https://github.com/anthonyyoud/> for two open source programs I have written in Fortran 90.)

Website development

- I am an experienced Python programmer, with knowledge of building, configuring, and maintaining websites using the MVC framework Django.
 - I was part of the team that developed an editor for the *Numbas* e-learning system. See <https://www.numbas.org.uk/> for more information about *Numbas* and <http://numbas.mathcentre.ac.uk/> for a publicly accessible version of the editor.
- I am also capable of using Python as a scripting tool, where shell tools are not sufficient. Examples include CSV and XML parsing, and SOAP requests.

System Administration

- I have extensive knowledge of both software and hardware aspects of the Linux/Unix and Windows operating systems, within a heterogeneous networked environment, including user management, authentication and authorisation, Apache web server management, and directory services, such as LDAP and Microsoft Active Directory.

- I am familiar with several Linux distributions, and use Ubuntu, Debian, and CentOS on a daily basis. I have configured and maintained servers and workstations running a variety of Linux derivatives, and Windows, and I have some familiarity with configuration of BSD Unix, MacOS, and the Solaris derivatives OpenIndiana and OmniOS.
- As a system administrator I am adept at Unix shell scripting with Bash, C Shell, and Makefiles, Windows batch scripting, and configuration management with software such as Puppet. I also have experience with the configuration of virtualization software, such as VMware and VirtualBox.
- I have been responsible for the maintenance and design of several database projects, using MySQL, PostgreSQL, and Firebird (Interbase). Security is always important, and I have a good grounding in authentication and authorisation, and data protection.

OTHER SKILLS

- Knowledge of computational mathematics, fluid dynamics, and numerical analysis.

CURRENT POSITION

- I am a software engineer in the Image Analysis and Clinical Microscopy Applications group at Leica Biosystems, developing medical imaging systems for the cytogenetics and pathology communities. I am responsible for developing image analysis algorithms and the implementation of software and hardware integration, including microscope and camera components.

PREVIOUS POSITIONS

Pulsic Ltd.

- I was a software engineer for Pulsic Ltd, designing and implementing algorithms within the field of Electronic Design Automation (EDA). I developed in C++ and Python.
- I was part of a team working on software for the automatic analog placement and routing of integrated circuits. Day to day work followed the Scrum software development framework and test-driven development practices.
- In addition to developing new algorithms and writing new functionality, I also worked in unfamiliar areas of the code, which required me to quickly understand its purpose.

Newcastle University

- I was the Teaching Support Officer/Computing Officer in the School of Mathematics & Statistics at Newcastle University.
- Responsible for Unix and Windows system administration: general IT support, setup, installation, configuration, and maintenance of Windows and Linux workstations and servers, including integration of Unix systems into a Microsoft Active Directory infrastructure.
- Responsible for the School's e-assessment systems, authoring questions of a mathematical nature, maintaining the backend databases, and providing support and advice to students and staff.
- Development of numerous internal web sites, conference and workshop websites, and the School admissions database.

- Contribution to teaching programmes by preparing materials and leading practical classes, and supervision of Masters level project students.
- Providing support, advice, and training materials for undergraduate and postgraduate students and staff, in the use of mathematical and statistical software, and other software for scientific writing and presentation.

EDUCATION

- 2002–2005 Ph.D.
Bifurcations in forced Taylor–Couette flow, Newcastle University.
- 1998–2002 MMath.
First class. *A new bifurcation in Taylor vortex flow*, Newcastle University.
- 1996–1998 A-Level
Mathematics (B), Chemistry (B), French (C), General Studies (B).
St. Edmund Campion R.C. School, Gateshead (now Cardinal Hume R.C. School).

EMPLOYMENT

Apr. 2018–present **Software Engineer**

Leica Biosystems.

Feb. 2017–Apr. 2018 **Principal Software Engineer**

Pulsic Ltd.

Mar. 2017–Feb. 2018 **Senior Software Engineer**

Pulsic Ltd.

Mar. 2014–Mar. 2017 **Software Engineer**

Pulsic Ltd.

Jan. 2010–Mar. 2014 **Teaching Support Officer**

School of Mathematics & Statistics, Newcastle University, NE1 7RU.

Jan. 2007–Jan. 2010 **Assistant Computing Officer**

School of Mathematics & Statistics, Newcastle University, NE1 7RU.

Mar. 2006–Jan. 2007 **Post-doctoral Research Associate**

Department of Applied Mathematics & Theoretical Physics, University of Cambridge, CB3 0WA.

Oct. 2005–Mar. 2006 **Assistant Computing Officer**

School of Mathematics & Statistics, Newcastle University, NE1 7RU.

REFERENCES

Available on request.

PUBLICATIONS

A list of my publications, as well as copies of conference talks I have given, is available on my website at http://www.anthonyyoud.co.uk/publications_talks.php.