

Dr. Ash (Punit) Patel

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Summary

Over 7 years of software engineering and research experience, and over 2 years of product lead experience. I am looking for software engineering roles with possible opportunities to mentor and eventual progression to lead a team. I am a hard-worker, a quick learner, and adaptable. I am eager to bring my positive attitude and work ethic to make an impact in your team, and to learn new skills and industries.

Technical Skills

Programming Languages: C++, Python, C, Fortran, C#, Julia, and MATLAB.
Parallel Directives: OpenMP, MPI, and CUDA.
Frameworks: .NET, WinForms, WPF.
Methods: Optimisation, and machine learning including ensemble and deep learning.
DevOps Git, Docker, Jenkins, CI, CD, JIRA, TFS, Bash, PowerShell.
Software Unix, Linux, MacOS, Windows, LaTeX, Microsoft Office, and Adobe Creative Cloud.

Experience

Technical Product Lead, Software Development Engineer

2021 - 2023

Petroleum Experts

Edinburgh, UK

- Lead development engineer for the physics-based thermodynamic fluid simulations and a user-facing UI product.
- Line managed 1 developer and mentored 3 other developers: delegated tasks, discussed programming practices, performed code reviews, and gave support.
- Developed a large C++20 project from the ground up using modern features such as concepts.
- Liaised with clients, developers, and other departments, to discuss their challenges and use-cases to obtain long term software requirements.
- Encouraged team-wide discussions and taught practices such as: better unit testing, use of SOLID principles, use of design patterns, better UI practices, Git practices, and use of modern C++ compilers.

Software Development Engineer

2020 - 2021

Petroleum Experts

Edinburgh, UK

- Development engineer for the physics-based thermodynamic fluid simulations and a user-facing UI product.
- Improved the performance and accuracy of calculations used in continuous, real-time and offline system models.
- Created new algorithms, implemented literature-based algorithms, and quality tested existing algorithms. Tested their performance against higher accuracy computation, experiments, competing products, and literature.
- Produced continuous integration pipelines and improved internal CI/CD practices.
- Implemented user-facing APIs and incorporated third-party APIs.

PhD Researcher

2015 - 2019

University of Warwick - Warwick Centre for Predictive Modelling

Coventry, UK

- Conducted a 4 year long research project in high-accuracy computational physics simulations of fracture in materials.
- Developed new mathematical-based modelling techniques to improve simulations, which combined concepts from literature, previous research, and work with collaborators.
- Wrote and optimised code for execution on national and international supercomputers.
- Published a paper in Nature Communications with collaborators from Imperial College London.
- Presented and discussed work at multiple national and international conferences, such as Dublin, Berlin, and Osaka.

Teaching Assistant

2017 - 2018

University of Warwick - Institute for Advanced Teaching and Learning

Coventry, UK

- Helped develop a new interdisciplinary computing module, which brought in students from the arts and sciences.
- Provided support classes which helped improve students' understanding of the material and produced assessments.

Photographer

2012 - 2017

Freelance

UK

- Provided a professional service for a range of events, including concerts, sport matches, and weddings.
- Worked directly with clients to materialise their visions into deliverable products.

Co-Founder, Youth Programme Manager

2009 - 2012

Young Opportunities

Leicester, UK

- Founded a not-for-profit organisation to help young people explore different opportunities to develop knowledge, skills, and improve well-being for themselves and their peers.
- Managed my team and liaised with secondary schools to initiate the programme.
- Hosted workshops for teenagers with challenging behaviour to also promote diversity and team working.

Supervisor

2009

Equality and Human Rights Commission

UK

- Responsible for the welfare and guidance of a group of young people during an outreach programme.
- As the elected team leader, I managed my team and coordinated meetings with them and senior staff.
- We also promoted the project to members of parliament.

Education

Doctor of Philosophy in Engineering

2015 - 2019

University of Warwick - Warwick Centre for Predictive Modelling

Coventry, UK

Master's & BSc in Mathematics and Physics (with Honours): 2:1

2011 - 2015

University of Warwick - Department of Physics

Coventry, UK

General Skills

Project and Time Management: Conducted a 2 year development project of a key strategic system. Conducted a 4 year research project. Over 7 years experience managing my own work and time, prioritising tasks, meeting internal and client deadlines.

Written and Verbal Communication: Authored extensive theoretical, practical, and reference documentation. Published scientific papers. Presented and discussed complex technical information to a variety of interdisciplinary shareholders, including colleagues and executive management. Presented to large groups at national and international conferences. Taught information to others.

Line Management and Mentorship: Managed a variety of teams in different industries, delegating tasks, leading team meetings, providing support. Mentored several people, on a variety of topics and disciplines, including scientific research practices, programming practices, and technical subjects.

Teamwork: Collaborated in a variety of teams, interdisciplinary teams, with colleagues and clients.

Personal

Hobbies Gastronomy, fitness, hiking, and videography.

Interests Space exploration, robotics, nature, design, travel, and film production.

References

Professional, academic, and personal references are available upon request.