

# ATHARVA PATHAK

AI, DATA & SYSTEMS ENGINEER

TECHNOLOGY | PROGRAMMES | PARTNERSHIPS | PUBLIC IMPACT

contact@atharva.info | Pune, India

atharva.info | linkedin.com/in/atharva-pathak-1005ba11a



## PROFESSIONAL SUMMARY

Software engineer and consultant with **9+ years of experience** across institutional and independent work, combining AI, data engineering and infrastructure with programme execution, stakeholder coordination and science outreach. Experienced in converting research and public-interest ideas into reliable platforms, managing GPU and production systems, and working with academia, government, industry, start-ups and civil-society partners across astronomy, sustainability, mobility and education.

## CORE EXPERTISE

Innovation Ecosystems

Programme Management

Strategic Partnerships

Product Ownership

AI & Data Platforms

IT Operations

## PROFESSIONAL EXPERIENCE

### Software Engineer, Big Data & AI Consultant

Jul 2022 - Present

#### Pune Knowledge Cluster Foundation (PKC)

- Design and manage scalable software, AI, data and infrastructure systems supporting research, sustainability and public-interest programmes.
- Own digital platforms from requirements and solution design through deployment, user testing, security, maintenance, reporting and continuous improvement.
- Coordinate researchers, developers, institutional leaders, government bodies, vendors and industry partners; translate diverse needs into practical technical and programme plans.
- Administer Linux and GPU infrastructure, databases, storage, Nginx, Docker, backups, VPNs and production web services supporting multiple institutional applications.
- Contribute to concept notes, partnership presentations, project estimates, workshops, roadshows, progress documentation and multi-partner initiatives in EVs, green hydrogen, citizen science and environmental monitoring.

### Project Assistant

15 Oct 2018 - 30 Jun 2022

#### Inter-University Centre for Astronomy and Astrophysics (IUCAA)

- Created online and offline resources that enabled teachers and students to undertake astronomy projects and participate in scientific activities.
- Built websites, dashboards, mobile tools and simulations of astronomical phenomena; supported scientific data, software and user workflows.
- Coordinated workshops, events, institutes and outreach stakeholders, adapting technical material for students, educators and amateur astronomers.

### Web, App & Systems Developer

Apr 2017 - Present

#### Independent / Freelance

- Design, develop and deploy websites, data applications, mobile utilities and scientific or educational software using Python, web technologies, Win32 SDK, OpenGL/WebGL and Linux-based hosting.
- Advise organisations on secure server operations, Docker deployments, Nginx reverse proxies, WordPress systems, data workflows and maintainable platform architecture.

## SELECTED PROJECTS & IMPACT

**One Million Galaxies** - Maintained the AI-driven galaxy analysis platform, active image-data updates, monitoring, reporting and quarterly roadshow support.

**ConnecTree** - Led website operations, ecosystem-data cleaning, report generation, submission review and support for a citizen-science environmental platform.

**Chemamaze** - Managed secure hosting, dependency updates, staging and developer coordination for interactive chemistry learning games.

**IUCAA Acrux GPU Server** - Managed GP-GPU users, scheduled workloads, security and backups for shared infrastructure hosting research applications, databases and digitisation tools.

**PKC Data & Systems** - Maintained database servers, RAID storage, office networks, VPNs, virtual machines, Google Workspace migration workflows and organisational backups.

## PROGRAMME, PARTNERSHIP & PRODUCT STRENGTHS

- **Innovation:** Shape early-stage ideas into implementable digital platforms, pilots and collaborative programmes.
- **Partnerships:** Research prospects, identify shared value, prepare concept notes and coordinate academia-industry-government discussions.
- **Programme delivery:** Plan activities, coordinate stakeholders, track timelines, resolve operational issues and document outcomes.
- **Product management:** Gather requirements, prioritise features, test releases and balance usability, security, resources and long-term maintenance.
- **Communication:** Develop presentations, reports, training resources and public-facing content in English, Marathi and Hindi.

## REPRESENTATIVE STRATEGIC INITIATIVES

- **MAHA EV Mission:** Support technical communication and programme material across batteries, power electronics and charging-infrastructure initiatives.
- **Pune Hydrogen Valley:** Contribute to digital-platform planning, partner workflows, project tracking and stakeholder-facing documentation.
- **International collaboration:** Research and develop partnership roadmaps, institutional mappings and proposals involving South Korea, the Netherlands and UK Catapult centres.
- **Sustainability:** Support circular-economy, environmental monitoring and mobility initiatives through stakeholder engagement, data systems and concept development.

## TECHNICAL SKILLS

### Systems & Operations

Linux (Rocky/Ubuntu), GPU clusters, Docker, Nginx, VPN, RAID, virtualisation, backups, monitoring

### Data & AI

Python, SQL, PostgreSQL/MySQL, data engineering, reporting pipelines, applied AI/ML automation

### Development

C, C++, JavaScript, HTML/CSS, WordPress, REST APIs, automation scripting

### Domains

Astrophysics, sustainability, clean mobility, citizen science, STEM education, public infrastructure

## EDUCATION

### Bachelor of Engineering

Information Technology  
Modern College of Engineering  
Savitribai Phule Pune University  
2013 - 2017

First Class with Distinction

## PROFESSIONAL HIGHLIGHTS

- 9+ years across engineering and consulting
- 7 years 9 months continuous institutional experience
- Research, sustainability and public-impact platforms
- Speaker/resource person at academic and industry events

## LANGUAGES

English | Marathi | Hindi

## CONTACT

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