

# Atul Goel

## Senior Software Engineer - Backend, Infrastructure and Tools

Chandigarh, India | +91-9412059999 | [atul.goel.126@gmail.com](mailto:atul.goel.126@gmail.com) | [atulgoel.me](http://atulgoel.me)

---

### Work Experience

---

#### Third Unicorn - Chandigarh, India

July 2023 - Present

##### Technical Product Manager

- As the pioneering Technical Product Manager at Third Unicorn, I led both technical and managerial aspects with **minimal oversight**. This role included orchestrating a significant turnaround for the Crickpe product, where I **stabilised the platform**, reduced operational costs notably, and enhanced server efficiency, leading to an **60% reduction in monthly server expenses**.
- I implemented key process enhancements, **transitioning the team to SCRUM and a no-touch CI/CD system**, which led to a marked increase in deployment speed and efficiency. My efforts in talent development and process refinement across technical and QA teams resulted in a 95% decrease in user-reported issues and a dramatic reduction in helpdesk ticket volume from average of 400 to under 10 per day.
- Spearheading the development of ZeroPe**, a fintech solution for the medical sector, I played a crucial role in architecting the product for **scalability**, targeting a user base of over 100 thousand. My hands-on involvement in **code reviews** and coding significantly uplifted the team's capabilities and **coding standards**.

---

#### Pixelberry Studios - Mountain View, CA

Jan 2020 - July 2023

##### Software Engineer - Infrastructure and Tools

- Revolutionized the company's CI/CD process by shifting from default Gitlab runners to **dedicated AWS runners** behind an ASG, **accelerating build times by 30 to 70%**. This **highly scalable** solution now supports hundreds of simultaneous jobs, significantly reducing wait times and enhancing the development lifecycle's efficiency. (Gitlab, AWS EC2, AWS CDK, Networking, Security)
- Developed a **serverless art asset ingestion** pipeline, facilitating customers to upload psd files and auto-generate game-ready assets. Also formulated a Domain Specific Language to dictate the **texture packing, compression** and conversion to **protocol buffers**. (Java, Typescript, AWS CDK, Pub/Sub, Step Functions, CI/CD, GraphQL)
- Co-designed the **user-authentication and authorization** system for all the company services and products for millions of users on top of **AWS Cognito**. (Typescript, AWS CDK, Single Sign On, JWT, API Gateway)
- Amplified the performance of in-house programming language by refining the **interpreter and grammar** using **ANTLR**, subsequently integrating this as a cloud-based tool with **Atom IDE**. (Interpreter/Compiler Design, Grammar, Java, Python, Shell script)
- Facilitated the deployment of **in-house job-orchestration platform** - cloud-pipe by troubleshooting bugs and optimizing its functionality. (Java, Infrastructure as a Code, AWS Cloudformation, Database optimizations, Caching, API Design, Debugging)
- Created a tool to **convert JSON data into** an easy to read **movie-script** format. Collected the data using **visitor pattern**, wrote an **HTML generator** and transformed the html into a pdf, which was hosted on cloud and **shared using a signed URL**. (Java, Typescript, AWS Lambda)
- Created a **content moderation web service** for images as well as stories **using external AI service** with customizable parameters for multiple age-ratings. Worked tightly with the product team transforming an abstract idea into a full-fledged feature and integrated it end to end. (Typescript, Moderation Engine, AWS)
- Designed a comprehensive onboarding program called **Pixelberry PhD**, which is a 2 week long program that every new developer who joined had to go through to get used to the tools and processes used at different teams.
- Acting team lead for Automation and Tools team**, managing everything from sprint planning to managing stakeholder expectations.

---

#### Big Huge Games

Jan 2019 - Dec 2019

##### Associate Software Engineer

- Streamlined **usability and workflow** of internal admin tool website, removed all **low-level access of functions by non-devs**, lowering feature testing times by half and eliminating data-entry related errors by QA completely. (Java, Spring)
- Implemented a **ledger system** for an in-game resource to prevent cheating and a complementary online tool to **fix the gameplay state of existing hackers**. (Java, Spring)
- Devised a **real-time monitoring web service for the game's Chat services** to narrow-down cause of server failures. (Telemetry, Shell script, Backend, Java)

**Game Programmer**

- Re-architected a **WebGL** based space invaders research game with **custom analytics** which **gained international recognition in academia**. (Unity, C#, WebGL)
- Designed a '**Control Center Dashboard**' for researchers to change game audio and game settings on the go and target specific settings to certain players. (SailsJS, AngularJS, Spring Boot, Java, DynamoDb)
- Supported two existing testing platforms and led the deployment for two new 6 months projects from external developers from start to finish. (PhaserJS, Python)

**Param Labs**

Dec 2016 - May 2017

**AR/VR Game Programmer**

- Re-engineered and **shipped** an existing **Samsung GearVR** game to **Google Daydream** to utilize the controller, which was featured on store upon launch. (Virtual Reality, Unity, C#)
- **Shipped** a mobile VR racing game to test VR-ads created by Google team and gather analytics, and **prototyped several demos** for Asus Zenfone for its launch. (Virtual Reality, Unity, C#)

**Client Projects****Project Playgrounds - Google Experience Center**

Aug 2018 - Dec 2018

**Programmer/ Backend Engineer**

- Partnered with external team to craft a **Digital Bartender** to highlight advancements of Machine Learning and speech recognition for Google Experience Centers. (Dialogflow)
- Designed a **designer/content writer-friendly pipeline** to directly edit dialogue-tree, reducing deployment times from several minutes to seconds by designing a seamless architecture between **Dialogflow, Firebase, Philips Hue API and Canvas API**.
- Designed a custom **load balancer/proxy server** to distribute requests and handle 3 times the max limit of an individual Philips Hub. (Google Cloud Functions, Node.js, Philips Hue API)

**Miracle Workshop - Give Kids The World**

Jan 2018 - May 2018

**System Architect/ Pipeline Engineer**

- Developed a **5 functions animatronic robot** and partnered with multiple companies to create custom show control infrastructure for controlling the animatronic, lights and sounds. (PLC, Network design)
- Architected **animation and content pipelines** that eliminated developer's involvement, significantly reducing iteration times and **created a Maya plugin that converts visual animations into motor rotations** and automatically smooths out jerks and fast movements. (Java, Python, Maya3D)
- Iterated and play-tested with several end users to fine tune the UX to be beginner friendly and without any special training. (User testing)

**Education****Carnegie Mellon University, Entertainment Technology Center, Pittsburgh, PA**

- May 2019

**Master of Entertainment Technology****Relevant Courses:** Building Virtual Worlds, Visual Storytelling, Java for Application Programmers, Data Structures and Algorithms**Vellore Institute of Technology University, India**

- May 2017

**Bachelor of Information Technology - Network Programming****Relevant Courses:** Computer Networks, Computer Graphics, Operating Systems, Introduction to Neural Networks, Advanced Java**Skills**

- **Primary languages:** Java, Typescript/Javascript, C#
- **Additional languages:** Python, C/C++, Shell Script
- **Database/Caching:** SQL, Redis, Memcache, NoSQL, DynamoDb
- **Technologies:** Pub/Sub, Protocol Buffers, EC2, Lambda, GraphQL, REST, API Gateway, CDN, Loadbalancer
- **Frameworks/Libraries:** Spring, Node.js, AWS CDK, AWS SDK, JUnit, Jest, lerna
- **Version Control:** Git (Gitlab/ Github), SVN, Perforce, Jfrog Artifactory,