

# Takahiro Hiroshi

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City, Tokyo 101-0063, Japan

FullStack & AI Developer | DevOps Engineer | Scalable Systems & Automation 🚀 | Tech Enthusiast 💡 | Always learning & improving  
🔧 #Backend #AI #DevOps

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## EXPERIENCE

### Data Engineer | Gravitate (Contract)

August 2024 – June 2025

- Designed and maintained ETL pipelines for aggregating and analyzing off-market real estate data, integrating data scraping, APIs, and cloud storage for real-time listing updates.
- Developed data models and transformations in Python and SQL to improve deal discovery accuracy, reporting speed, and decision-making.
- Built scalable data pipelines that supported AI-driven real estate assistants powered by GPT-3, enabling natural language understanding and automated deal analysis.
- Engineered data-driven deal calculators, combining backend computation with React.js interfaces, providing users real-time ROI and cash flow insights.
- Created and optimized analytics dashboards to assess real estate agent performance, implementing scoring models and visualization for better investment strategies.

### Senior Backend Engineer & AI Developer | Prosa.ai (Part-time)

September 2023 – December 2024

- Developed and deployed AI-powered systems, including NLP pipelines, conversational chatbots, and text recognition models, enhancing automation and user engagement.
- Designed and implemented backend microservices in Python and Node.js, migrating legacy systems to a scalable, containerized architecture with Docker and Kubernetes.
- Built APIs and backend services to support real-time dashboards, integrating data from multiple sources and ensuring high availability and performance.
- Collaborated with product and UX teams to align AI features with business requirements, delivering intuitive

## Skills

### Frontend Technologies:

React, React Router, React Native, Vue.js, Angular, Next.js, Webpack, Babel, UI/UX Design, Flutter

### Backend Technologies:

Node.js, Express.js, Rails, Laravel, CodeIgniter, Symfony, Django, Flask, FastAPI, TypeORM, API Design, WordPress, Shopify

### Database Technologies:

MongoDB, NoSQL, MySQL, SQLite, PostgreSQL, Redis

### DevOps Tools:

EC2, Jenkins, RDS, Nginx, Kubernetes, Docker, Terraform, Ansible, Prometheus

### Programming Languages:

JavaScript, TypeScript, Python, PHP, Ruby

### Development Practices:

Test-Driven Development (TDD), Algorithms, Data Structures, Continuous Integration/Continuous Deployment (CI/CD), Pair Programming

interfaces and real-time insights.

- Conducted experiments with machine learning models and fine-tuned LLMs for automation and intelligent data processing.

## Senior Backend Developer | TechSolutions Inc.

October 2022 – August 2023

- Led the migration of internal service applications to a custom, in-house backend stack built primarily with **Python (FastAPI)**, enhancing system performance, scalability, and maintainability.
  - Developed a reusable **Python-based service template** with built-in authentication/authorization (OAuth2/JWT), adopted company-wide to accelerate backend service deployment.
  - Architected and implemented **CI/CD pipelines** using Jenkins and GitHub Actions, with automated testing and deployments to **AWS (ECS, RDS, Lambda)**, improving reliability and reducing downtime.
  - Designed and optimized **RESTful APIs and backend services**, integrating with managed databases (PostgreSQL, MySQL, DynamoDB) to support data-intensive applications.
  - Improved development quality by introducing **Test-Driven Development (TDD)** practices, achieving higher code coverage and reducing production issues.
  - Collaborated with frontend and DevOps teams to deliver **scalable APIs and real-time data dashboards**, ensuring seamless integration and high availability.
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## Version Control &

**Collaboration:** Git, Jira, ESLint

## Blockchain:

Solidity, web3.js

## AI & NLP Integration:

Python, spaCy, NLTK, transformers, TensorFlow, PyTorch, OpenAI GPT (via API), Dialogflow, Rasa, [Wit.ai](#)

## Data Engineering & Processing:

ETL Pipelines, Airflow, Apache Spark, Pandas, NumPy, Data Warehousing (Redshift, BigQuery, Snowflake), Data Modeling, SQL Optimization.

## LANGUAGES

Japanese, English

## Senior Software Engineer | DevX Innovations

April 2020 – August 2022

- Led the development and optimization of full-stack applications with a focus on scalability and performance, leveraging Python, Django, Flask, and React.
- Streamlined complex data management workflows using Python frameworks, improving operational efficiency and process throughput.
- Enhanced front-end applications by optimizing React and Vue.js components, reducing load time, and improving user experience.
- Resolved critical issues related to data synchronization between NoSQL databases and REST APIs, ensuring consistency and reliable system behavior.
- Drove the development of a full-stack project, ensuring

code robustness with Test-Driven Development (TDD) practices.

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## **Full-Stack Developer | FinTech Solutions Ltd.**

*April 2019 – January 2020*

- Engineered dynamic, real-time dashboards for performance metrics and sentiment analysis, utilizing data scraping, NLP, and advanced data visualization techniques to provide actionable insights.
  - Developed and implemented WebSocket-based real-time communication features, including a real-time chat application, enhancing team collaboration and customer engagement.
  - Streamlined data pipelines for real-time data processing, improving system efficiency and ensuring accurate reporting for performance metrics.
  - Delivered scalable and maintainable full-stack solutions for internal teams, with a focus on robustness and long-term operational efficiency.
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## **Backend Developer | CloudTech Systems**

*March 2017 – January 2019*

- Designed and developed scalable backend systems using PHP, Laravel, and CodeIgniter, ensuring high performance and maintainability.
  - Architected real-time communication features using WebSocket, enhancing interactive user experiences and streamlining team collaboration.
  - Optimized relational and NoSQL databases to support high-volume transactions and ensure rapid data retrieval for complex, data-heavy applications.
  - Collaborated with front-end teams to design and integrate APIs, facilitating seamless communication between the front-end and back-end systems.
  - Improved application performance and system reliability by identifying and resolving bottlenecks and implementing industry best practices for backend development.
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## **Frontend Developer | Digital Innovations**

August 2015 – January 2017

- Developed responsive and interactive web pages using HTML5, CSS3, JavaScript, and Bootstrap, ensuring seamless cross-device and cross-browser compatibility.
- Transformed high-fidelity design prototypes into pixel-perfect functional front-end components, maintaining strict adherence to design specifications.
- Collaborated with backend developers to integrate APIs, ensuring efficient and smooth communication between frontend and backend systems.
- Optimized front-end performance through techniques such as lazy loading, asynchronous scripts, and code minification, significantly enhancing the user experience.
- Maintained and updated existing projects, resolving bugs and implementing new features to meet evolving business requirements.

## EDUCATION

### **Waseda University, Tokyo— *Bachelor's Degree***

April 2012 - May 2015

During my time at Waseda University, I developed a robust foundation in software engineering and computer science. My academic focus included core technologies and principles essential to software development, such as programming languages (JavaScript, Python), frameworks (React, Django), and databases (MySQL, SQLite). I worked on multiple academic and personal projects, where I gained hands-on experience in both frontend and backend development.

Key accomplishments and areas of focus include:

- **Web Development:** Designed and developed web applications using JavaScript, Python, and frameworks like jQuery and Django, with an emphasis on user experience and functionality.
- **System Design:** Built scalable and efficient systems, applying principles of object-oriented programming, data structures, and algorithm optimization.
- **Database Management:** Worked with relational databases (MySQL, SQLite), focusing on data modeling, query optimization, and application integration.

- **Version Control:** Gained practical experience in Git for source code management and collaborated with peers on various projects using version control tools.
- **Teamwork & Problem Solving:** Actively participated in coding events, enhancing my ability to collaborate in team environments, solve complex technical challenges, and improve my problem-solving skills.

This educational background laid the groundwork for my career in software engineering, fostering a passion for both the technical and collaborative aspects of software development.