Hugo Villanua Vega

Product development | Engineering Management

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Senior engineering leader with a strong background in product development and AI. Proven ability in leading multidisciplinary teams, developing client-centric products, and making strategic data-driven decisions.

Work Experience

Rapyuta Robotics, Tokyo, JP

Engineering Lead Jun 2021 – Present

- **Lead** a multidisciplinary team of engineers using **agile** methodologies
- **Design and implement** major features, bug triage, and resolution
- Lead and implement observability into existing product with OpenTelemetry and Grafana. Reduced issue investigation time by 60%
- **Planning and coordination** of product development and release lifecycle
- Conduct over 160 interviews for multiple engineering roles
- **Mentor** 10 engineers, ranging from junior to senior, with a 50% promotion rate

Cross Compass, Tokyo, JP

AI Engineering Manager Apr 2020 – Jun 2021

- **Manage** consulting and product teams, overseeing production, and quality control
- **Lead** transition from one-time projects to products and reusable components, reducing time to delivery by 10%

AI Team Lead Jul 2019 – Apr 2020

- Optimize resources to maximize productivity and team members' career progression
- Leveraged experience to secure a customer and launch a new business line with a robot navigation system. Lead the **proposal, design, and implementation**
- **Lead research and implementation** on image classification, robot grasping, and fleet navigation

AI Consultant Sep 2018 – Jul 2019

- Image and video recognition with **deep learning**
- System modeling and optimization with **machine learning**

HI Iberia, Madrid, ES

Data Analyst Apr 2016 – Sep 2018

- **ETL** and data processing for **big data** using Hadoop, Hive, and Oozie
- KPI and dashboard **data visualization** with Tableau

Flyster, Madrid, ES

Co-founder May 2015 – Dec 2015

- Develop a travel recommendation platform using **NLP** and Apache Solr

Indra, Madrid, ES
Software Engineer Aug 2014 – May 2015

- Development of dashboards for data visualization and reporting

Hanscan Id. Manage, Madrid, ES
Embedded Software Engineer Dec 2012 – Jul 2014

- Develop biometric applications for desktop and **ARM embedded systems**

Education

Quantic School Of Business And Technology
MBA Apr 2020 – Apr 2021

Udacity
Self-driving Car Nanodegree Sep 2017 – May 2018

Complutense University, Madrid, ES
BSE + MS: Computer Science Engineering Sep 2007 – Aug 2012

Software

Programming languages | Expert: Python. **Fluent**: C++, SQL. **Capable**: Rust, JS
Other tools | Linux, Docker, Git, Grafana

Independent Projects

RAG system. Sole developer. Personal project, implemented an augmented generation system for information retrieval based on unstructured user input using LLMs and Llama Index.

Radiophysics calibration software. Sole developer. Implemented a desktop application for the calibration of gamma cameras with Python and Qt. Used OpenCV to analyze test images and estimate calibration. A hospital in Seville, Spain is currently using this work.

Software for a private academy. Managed project and built a microservice-based software for student exam correction with Python and FastAPI, outsourced the front end while managing the work and communication to keep deadlines and quality. Additionally built a desktop application to generate parametrized random exams.

Patents

Patent 7357878 (control optimization for separation of liquid and solid sludge)
PCT/JP2019/031945 (fine-tuned tool selection for machinery production)
PCT/JP2019/031946 (generation of intermediate workpiece steps for machinery production)
PCT/JP2019/031947 (automatic process design based on workpiece shape data)

Languages

English, Full Professional Proficiency, CAE, CEFR level C1
Spanish, Native
Japanese, Conversational Level, JLPT N3, CEFR level B1
Chinese, Elementary Proficiency, HSK 2, CEFR level A2