

SUMMARY PFE BOOK

Relevez le défi !
Stage de rêve pour esprit innovant
Transformez vos idées en expériences concrètes

Introduction

Code Reason s'engage à former la nouvelle génération de développeurs en proposant des projets de fin d'études ambitieux et innovants. Dans un paysage digital en constante évolution, il est essentiel d'explorer les technologies émergentes et de développer des solutions qui répondent aux besoins actuels du marché.

Contexte marché :

- Digitalisation accélérée des services
- Demande croissante d'expériences utilisateur immersives
- Expansion rapide de l'IA appliquée
- Nécessité de solutions cross-platform performantes

Part 1

Web Projects

Virtual Tour System (360°)

Develop an immersive solution enabling 360° virtual tours of real estate, commercial spaces or tourist sites.

Technical Stack

- Frontend: React, Three.js, A-Frame
- Backend: Node.js, Express
- Database: MongoDB
- APIs: Google Street View, Matterport

Real-Time Chat with Voice Call and Messaging

Improve an existing chat system by integrating voice calling and voicemail functionalities.

Technical Stack

- Frontend: Next.js, WebRTC
- Backend: Socket.io, Node.js
- Database: MongoDB
- Services: Twilio (voice)

Secure Online Payments

Implement a secure and certified payment module, compatible with international standards (PSD2, 3D Secure).

Technical Stack

- Frontend: React, Stripe Elements
- Backend: Django, Spring Boot
- Payment: Stripe, PayPal, Paymee, E-Payment
- Security: SSL/TLS, AES-256 encryption

Search "Near Me"

Implement a geolocation search to display relevant results (e.g., goods, services) near the user.

Technical Stack

- Frontend: React Native, Leaflet.js
- Backend: Python (FastAPI), Elasticsearch
- Geolocation: Google Maps API, OpenStreetMap
- Database: PostGIS (PostgreSQL)

Part 2

Mobile Project

Development of a Mobile Version

Create a cross-platform mobile application offering an optimized and seamless user experience.

Technical Stack

- Framework: Flutter, React Native
- Backend: Firebase, Node.js
- Database: MongoDB
- DevOps: GitHub Actions, Fastlane
- Tests: Appium, Jest

Offline Mode

To allow access to the main functionalities of a web application even without an internet connection.

Technical Stack

- Frontend: React, Workbox (PWA)
- Local storage: IndexedDB, LocalStorage
- Synchronization: Background Sync, CouchDB
- Tools: Lighthouse, Webpack

Part 3

AI Projects

Intelligent Recommendation System

Develop a personalized recommendation algorithm that adapts to user behavior.

Technical Stack

- Algorithms: Collaborative Filtering, KNN, SVD
- Machine Learning: Scikit-learn, TensorFlow
- Data Processing: Pandas, NumPy
- Infrastructure: Docker, Kubernetes
- Visualization: Matplotlib, Seaborn

Smart Chatbot

Design a conversational assistant capable of understanding complex queries and automating appointment scheduling.

Technical Stack

- NLP: spaCy, BERT, Rasa
- Backend: Python, FastAPI
- Integrations: Google Dialogflow, Calendly
- Database: MongoDB
- Multilingual: i18n, Google Translate API

Automatic Price Estimation

Create a predictive model to estimate the value of real estate in real time.

Technical Stack

- Machine Learning: XGBoost, Random Forest
- Real-time Analysis: Apache Kafka, Spark
- Data Sources: Real Estate APIs, Scrapy
- Visualization: Tableau, Grafana
- Deployment: MLflow, AWS SageMaker

Fraud Detection

Implement a fraud detection system based on pattern analysis and automated verification.

Technical Stack

- Algorithms: Isolation Forest, Autoencoders
- Processing: Apache Spark, PyTorch
- Database: Cassandra, Redis
- Monitoring: Prometheus, Grafana
- Alerts: Slack Webhooks, PagerDuty

Part 4

Designer

Web & Mobile Designer

- Design & prototype the user experience of cross-platform applications.
- Development of interactive mockups and design systems.

Technical Stack

- Figma (Auto Layout, Prototyping, Dev Mode)

Creative Social Media & Visual Strategy

- Development of visual identity and creation of engaging content
- Production of visuals adapted to each platform (feed, stories, videos)

Technical Stack

- Adobe Suite, social media management tools, engagement metrics

Part 5

Digital Marketing

Digital Marketing & Multichannel Strategy

- Development and optimization of marketing campaigns (SEO/SEA, social media, email)
- Data analysis and reporting to maximize ROI and growth

Technical Stack

- Google Analytics, Meta Business Suite, Google Ads, automation tools

Part 6

Business Developer / Commercial B2B

B2B Sales & Business Development

- Active prospecting and negotiation of strategic partnerships
- Management of the entire sales cycle, from initial contact to closing

Technical Stack

- Salesforce, LinkedIn Sales Navigator, video conferencing tools

Any questions?

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