



AIForge

A Smart Platform for Hosting and
Deploying ML Models



Meet Our Team

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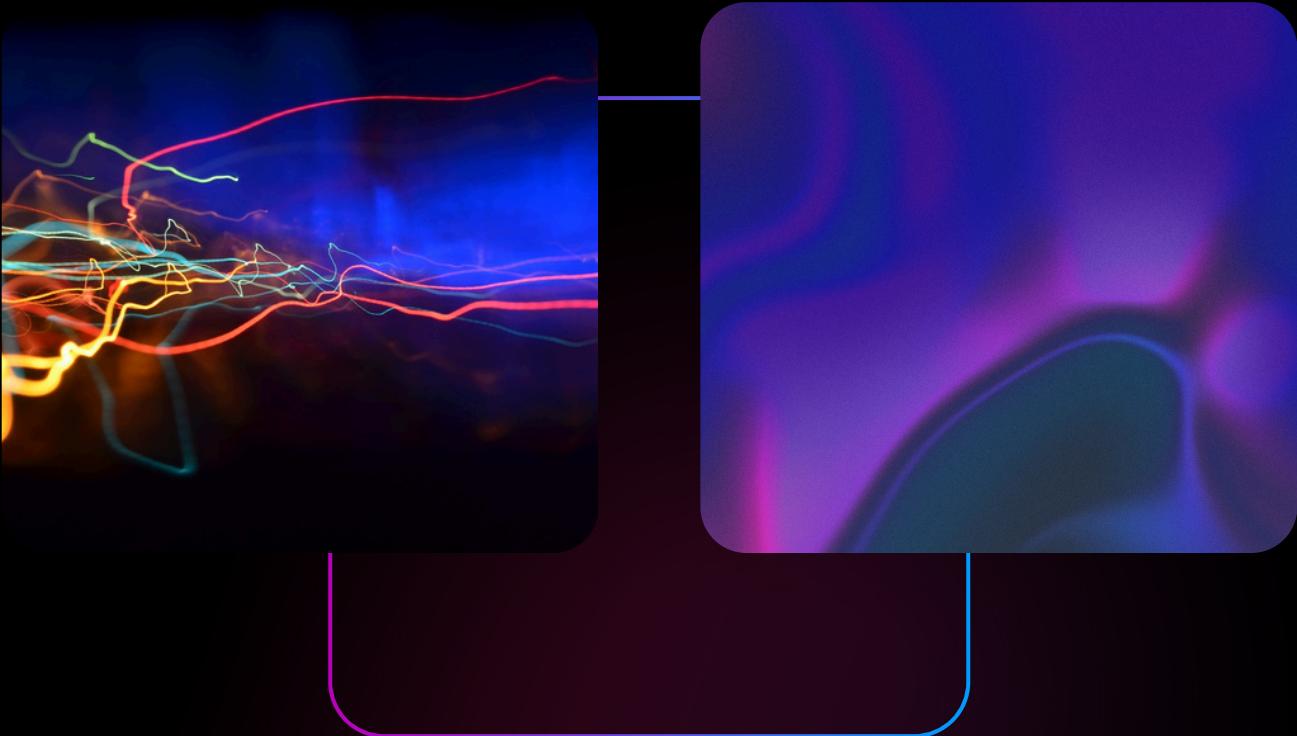
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★ Vision:

Build a flexible and secure platform to deploy and share ML models through an easy-to-use interface.

Our goal is to speed up the transition from model training to production.



★ Motivation:

- Deploying ML models is often complex and time-consuming.
- Teams need a simple way to upload, share, and monitor models.
- We want to reduce the time between building a model and using it in real life.

Key Features

- ◆ Model Hosting:

Supports Scikit-learn, TensorFlow, PyTorch, and more.

- ◆ Automated Deployment:

Turn any model into a RESTful API in just a few clicks.

- ◆ Interactive UI:

User-friendly interface to manage and monitor models.



- ◆ Security & Privacy:

Your models and data are protected at all times.

- ◆ Version Management:

Track model updates and maintain version history.

System Architecture

Frontend:

Built with React or HTML/CSS to provide an intuitive user experience.

Backend:

Uses Flask or FastAPI to handle API requests and deployment logic.

Database:

MongoDB or PostgreSQL to store user data, model metadata, and performance logs.

Model Serving:

Models are served as RESTful APIs, accessible over the network.



Workflow

Upload Mode

The user uploads their machine learning model to the platform.

Analyze Model

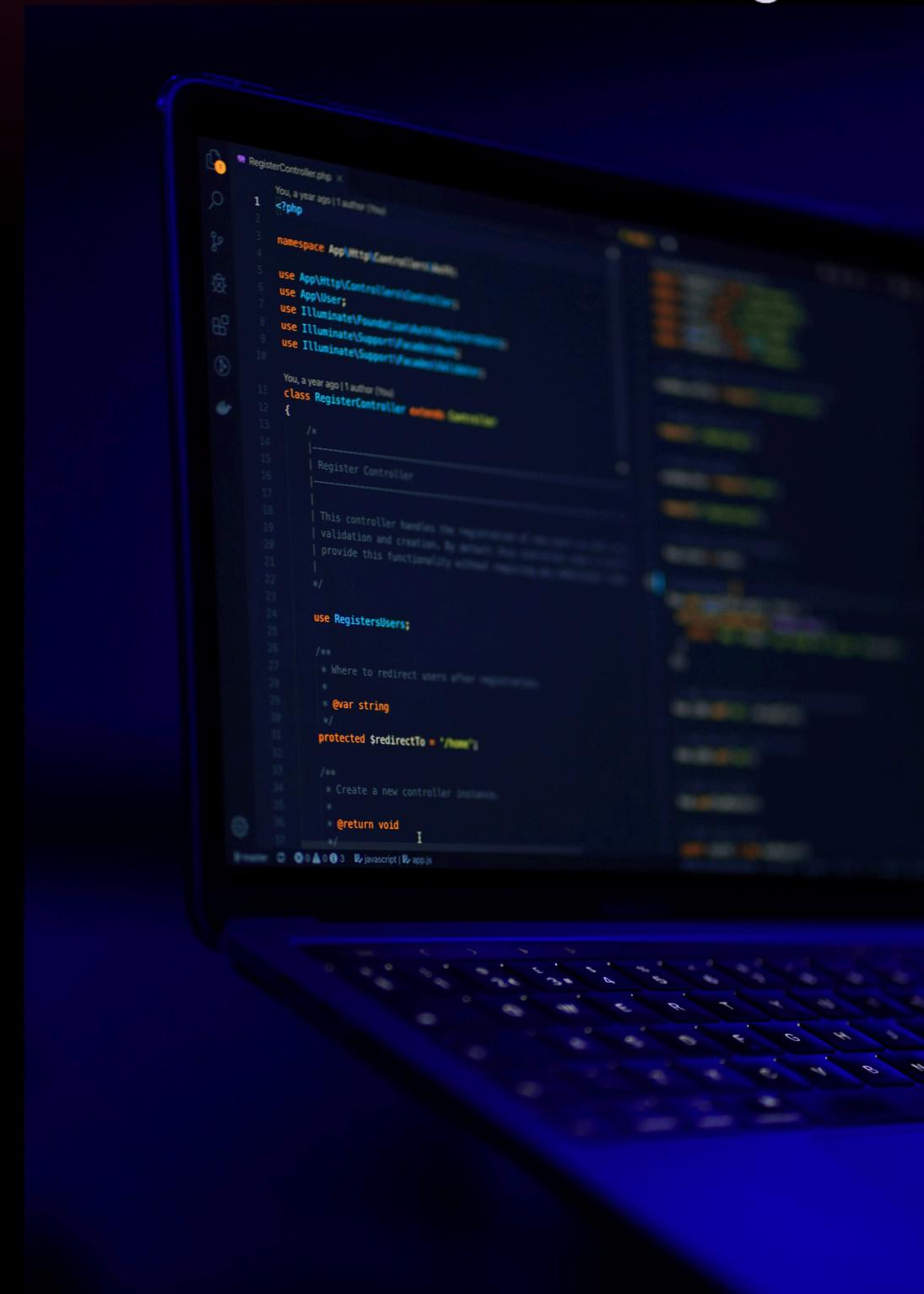
The system detects the model type and prepares it for deployment.

Deploy Mode

The model is deployed as a RESTful API endpoint.

Monitor Performance

Real-time monitoring tools show usage, speed, and accuracy stats.



Healthcare Model Deployment

Turning AI into Real-World Impact



- ✓ Seamless Integration – Connects with hospitals, clinics, and EHR systems
- ✓ User-Friendly Access – Web dashboards, mobile apps, and API endpoints
- ✓ Real-Time Predictions – Instant risk assessments for doctors & patients

Why It Matters ?

- 🚀 Faster Diagnoses – AI supports clinical decisions
- ⌚ Better Outcomes – Early detection saves lives
- 📊 Data-Driven Care – Personalized risk predictions

"From code to clinic—AI that works where it's needed most."



User Interface

Dashboard

View all uploaded models, their status, and usage.

Upload Form

Easily upload models with configurations.

Performance Reports

Visual charts and stats to evaluate model behavior and performance.



AiForge Homepage & Key Features:



🌐 Homepage:

The homepage of **ML Web App** introduces **AiForge Deployment Service** — a clean and modern platform for integrating and using machine learning models through a web interface.

A screenshot of the 'ML Web App' homepage. At the top, there's a blue header bar with the text 'ML Web App' on the left and 'Home', 'Models', and 'Upload Model' on the right. Below the header, the main title 'AiForge Deployment Service' is displayed in large, bold, dark text. Underneath the title is a subtitle: 'A platform for integrating and using machine learning models through a simple web interface.' Below the subtitle are two buttons: 'View Models' (highlighted in a blue box) and 'Upload Model'. A large white box occupies the lower half of the page, containing the heading 'A better way to use ML models' and the subtext 'Integrate, manage, and use machine learning models with ease.' It also lists four features with icons: 'Multiple Model Types' (globe icon), 'Fast Predictions' (lightbulb icon), 'Easy Integration' (gear icon), and 'User-Friendly Interface' (chat bubble icon).

ML Web App Home Models Upload Model

AiForge Deployment Service

A platform for integrating and using machine learning models through a simple web interface.

View Models Upload Model

FEATURES

A better way to use ML models

Integrate, manage, and use machine learning models with ease.

- Multiple Model Types**
Support for various types of models including image classification, text analysis, and tabular data prediction.
- Fast Predictions**
Optimized backend for quick model inference and response times.
- Easy Integration**
Simple API for integrating new models and making predictions with existing ones.
- User-Friendly Interface**
Clean, intuitive UI for interacting with models without needing technical expertise.

🔍 View Models:

A button that lets users browse available ML models. You can easily explore and try out models already deployed on the platform.

⬆️ Upload Model:

This feature allows users to upload their own machine learning models. Just a few clicks to get your model ready for deployment and use.

Use Cases



Universities

Empower students and researchers to deploy models for academic use.

Startups

Quickly test and deploy models in a secure and scalable environment.

Enterprises

Centralized solution for sharing and managing ML models across teams.

Prediction Models



Heart Disease



Hypertension



Diabetes



Schizophrenia



Asthma

Diabetes Prediction Model

Key Features

- Glucose
- BMI
- Age
- Blood Pressure
- Insulin

Limitations

- Demographic bias
- Lab-dependent features

Models Used

- Logistic Regression (baseline)
- Random Forest
- XGBoost (best accuracy)

Best Result

- 80% Accuracy
- Predicts risk based on input data
- Example: Glucose=150 → High Risk (80%)

🔍 Goal: Predict diabetes risk using patient health data.

Future Use

- Early screening tool
- Mobile/web deployment
- Add lifestyle factors



Hypertension model

Key Features

- Biometrics
- Lifestyle: Sodium intake, activity, smoking
- Medical History: Diabetes, cholesterol
- Demographics: Age, gender, race

⚠ Limitations

- Self-reported data = potential bias
- May miss secondary hypertension causes
- Possible demographic underrepresentation

✓ Best Result

- Handles imbalanced data
- High accuracy (80–90%)
- Regularization prevents overfitting
- Feature importance + robust prediction

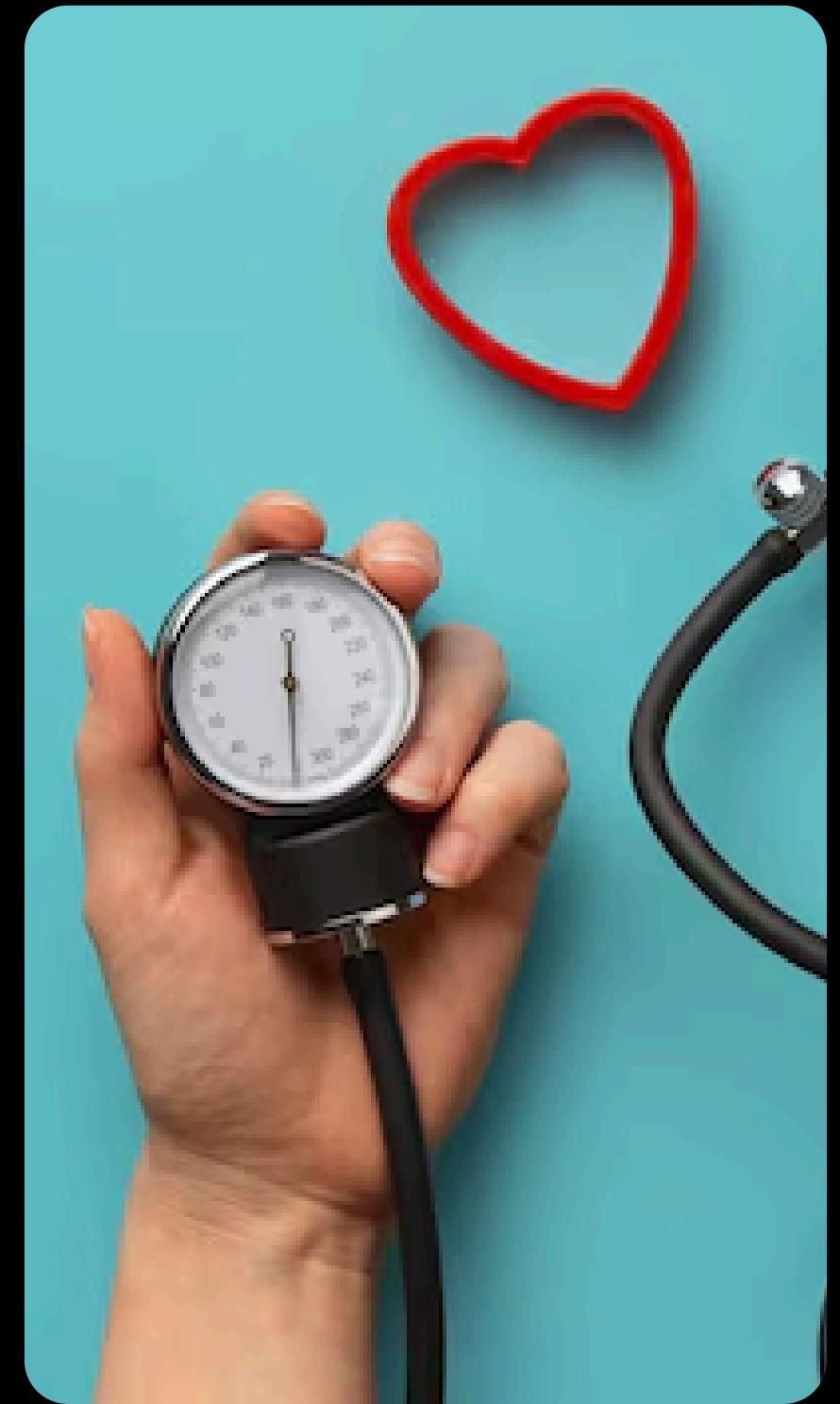
🔍 Goal: Predict hypertension risk using patient health data.

🧠 Models Used

- Logistic Regression
- Random Forest
- XGBoost/LightGBM

💡 Future Use

- Early screening tool
- Mobile/web deployment
- Add lifestyle factors



Heart Disease Prediction Model

Key Features

- Blood pressure
- Cholesterol
- Age
- Chest pain type
- Exercise-induced angina

Models Used

- Logistic Regression
- Random Forest (non-linear patterns)
- XGBoost (best accuracy)

Future Use

- Early risk screening
- Doctor support tools
- Add lifestyle/family history
- Web/mobile deployment

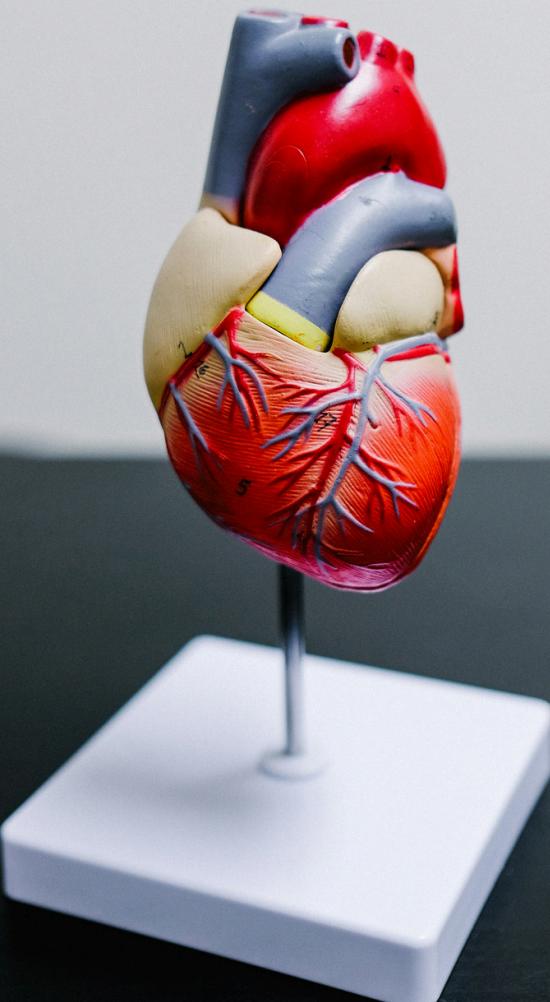
Limitations

- Clinical data required
- Dataset bias (e.g., older adults)
- Class imbalance may reduce recall

Best Result

- ~80%+ Accuracy
- Top predictors reflect cardiovascular risk factors

🔍 Goal: Predict heart disease risk using medical & lifestyle data.



Asthma Prediction Model

Key Features

- Physical health days
- COPD
- Age
- BMI
- Smoking status

Models Used

- Logistic Regression (85.5% accuracy)
- Random Forest (89.4%)
- XGBoost (best: 89.6%, F1: 0.43)

⚠ Limitations

- Imbalanced data (asthma = 14.5%)
- Low recall for asthma cases
- Limited to BRFSS variables

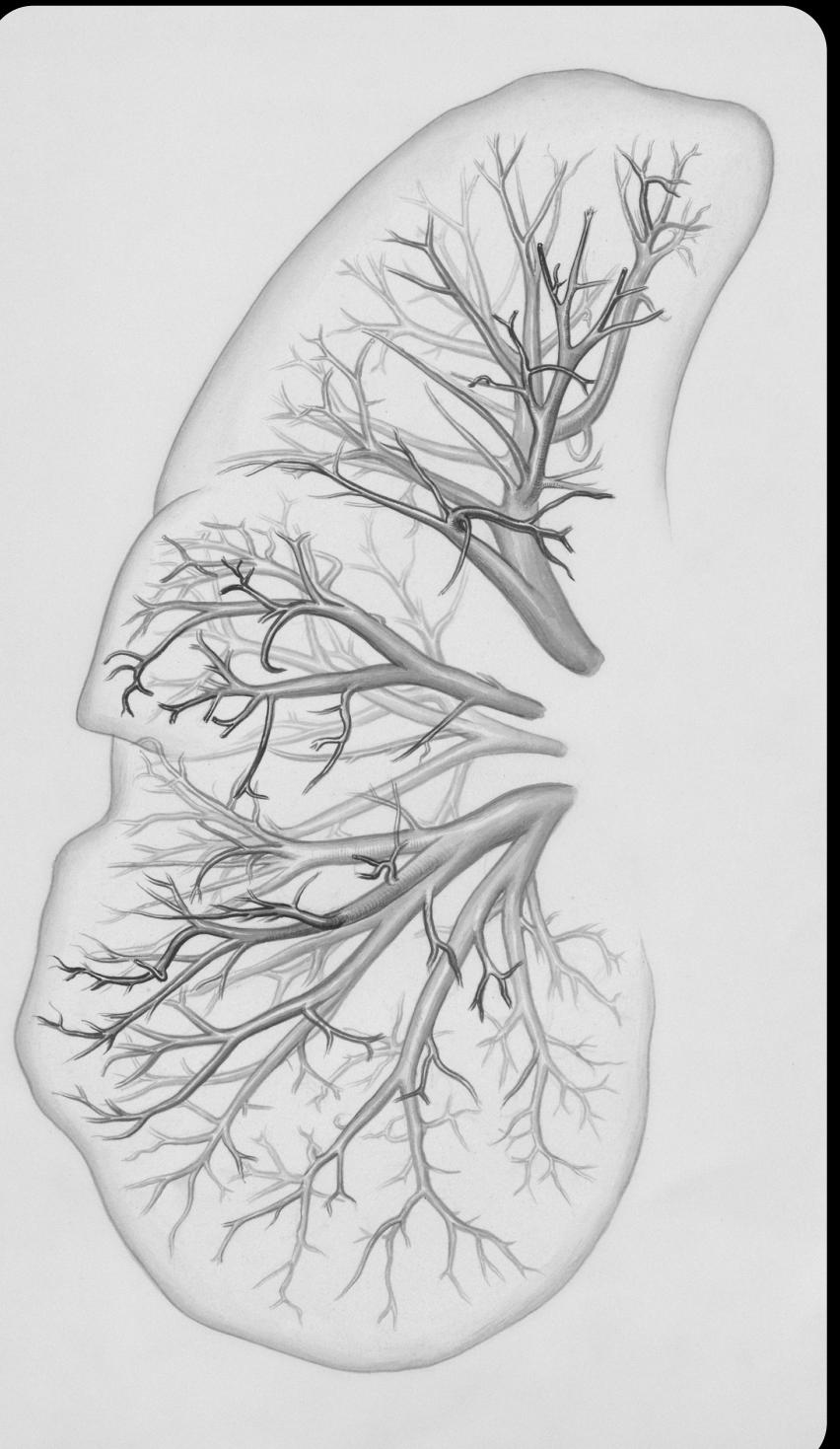
✓ Best Result

- 89.6% Accuracy
- Top features highlight physical + respiratory health risks

🔍 Goal: Predict asthma risk using health survey data.

💡 Future Use

- Public health planning
- Risk screening tools
- Add environmental & clinical data



Schizophrenia

Key Features

- Memory & attention scores
- Hallucinations, delusions
- Family history
- Social withdrawal

⚠ Limitations

- Rare disorder (~1% prevalence)
- Data challenges (missing, sensitive, high-dimensional)
- Ethical risks (stigma, misdiagnosis)

🧠 Models Used

- Logistic Regression (baseline)
- Random Forest, XGBoost (handle complex data)

✓ Focus

- Early detection (high recall)
- Cognitive & social decline as early signals

🔍 Goal: Predict schizophrenia risk using cognitive, behavioral & clinical data.

💡 Future Use

- High-risk youth screening
- Mobile tracking (digital phenotyping)
- Clinician-support tools
- Multimodal data fusion



Conclusion



AIForge provides a modern, simple, and secure way to deploy ML models.

By automating deployment and performance tracking, we help teams save time and bring their ideas to life—faster than ever before.

Thank You

FOR YOUR ATTENTION

