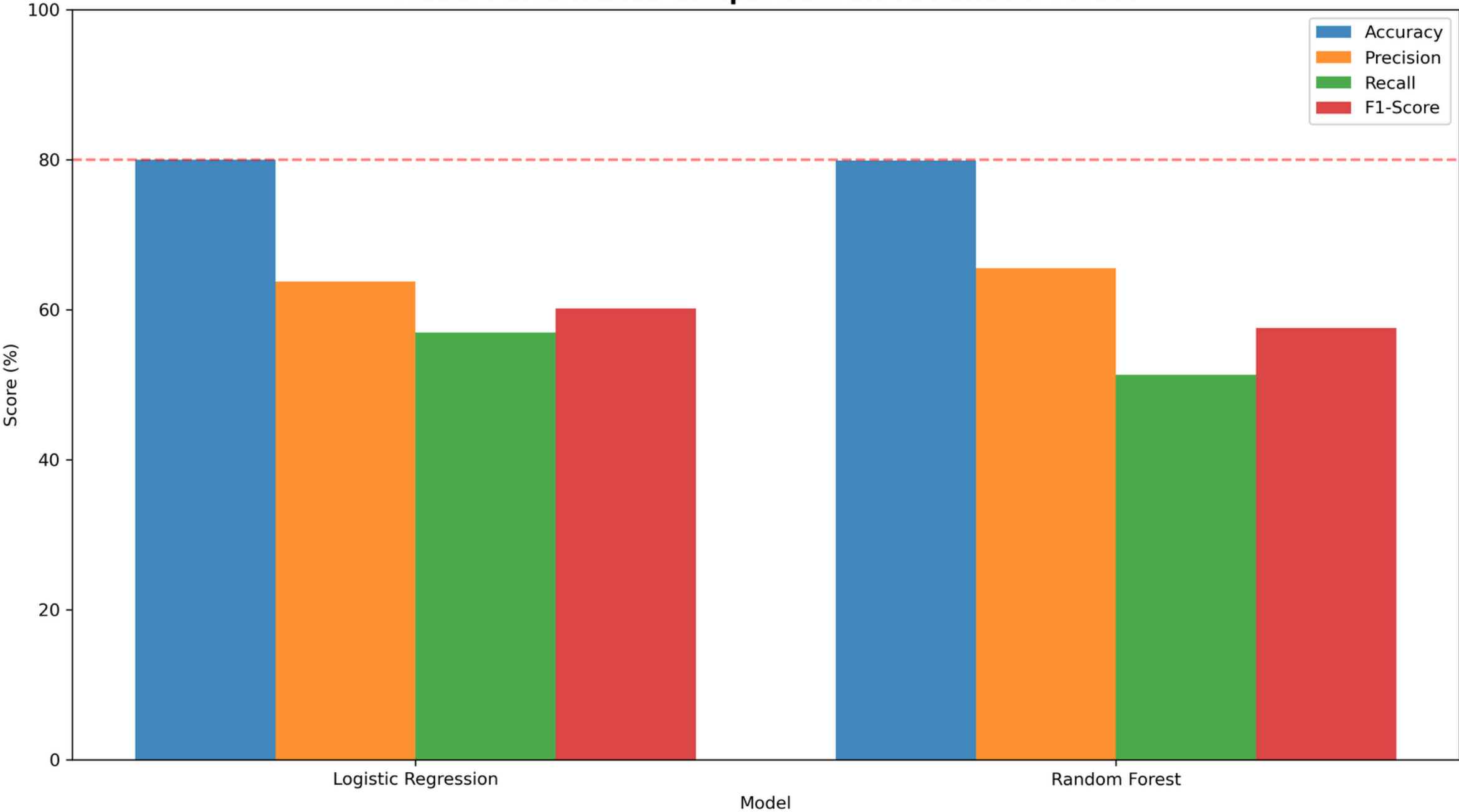Marketing Data Analyst | Dashboard & BI Developer | Ex-Head of Marketing & Sales | Data-Driven Growth | CS Background

PROJECT PORTFOLIO
2026

IGUSTI RAHARJA

DATA ANALYST

Customer Churn Prediction Model
Logistic Regression & Random Forest | Python, Machine Learning
www.linkedin.com/in/vadayogi | www.github/igavadayogi

Project Overview

Model Performance Comparison: LR vs Random Forest

Telecom Churn Prediction Model

Built predictive models to identify at-risk customers before they churn, enabling proactive retention campaigns. Analyzed 7,043 customers with 26.5% churn rate using Logistic Regression and Random Forest algorithms.

BEST MODEL: LOGISTIC REGRESSION

✓ ACCURACY: 79.99%
✓ PRECISION: 63.77%
✓ RECALL: 56.95%
✓ F1-SCORE: 60.17%
IDENTIFIED 1,064 AT-RISK CUSTOMERS FOR PROACTIVE INTERVENTION

DATASET: 7,043 TELECOM CUSTOMERS, 35 FEATURES, 1-YEAR PERIOD TOOLS: PYTHON (PANDAS, SCIKIT-LEARN, MATPLOTLIB), JUPYTER NOTEBOOK MODELS: LOGISTIC REGRESSION (BASELINE), RANDOM FOREST (COMPARISON)

IGUSTI RAHARJA

DATA ANALYST

Customer Churn Prediction Model
Logistic Regression & Random Forest | Python, Machine Learning
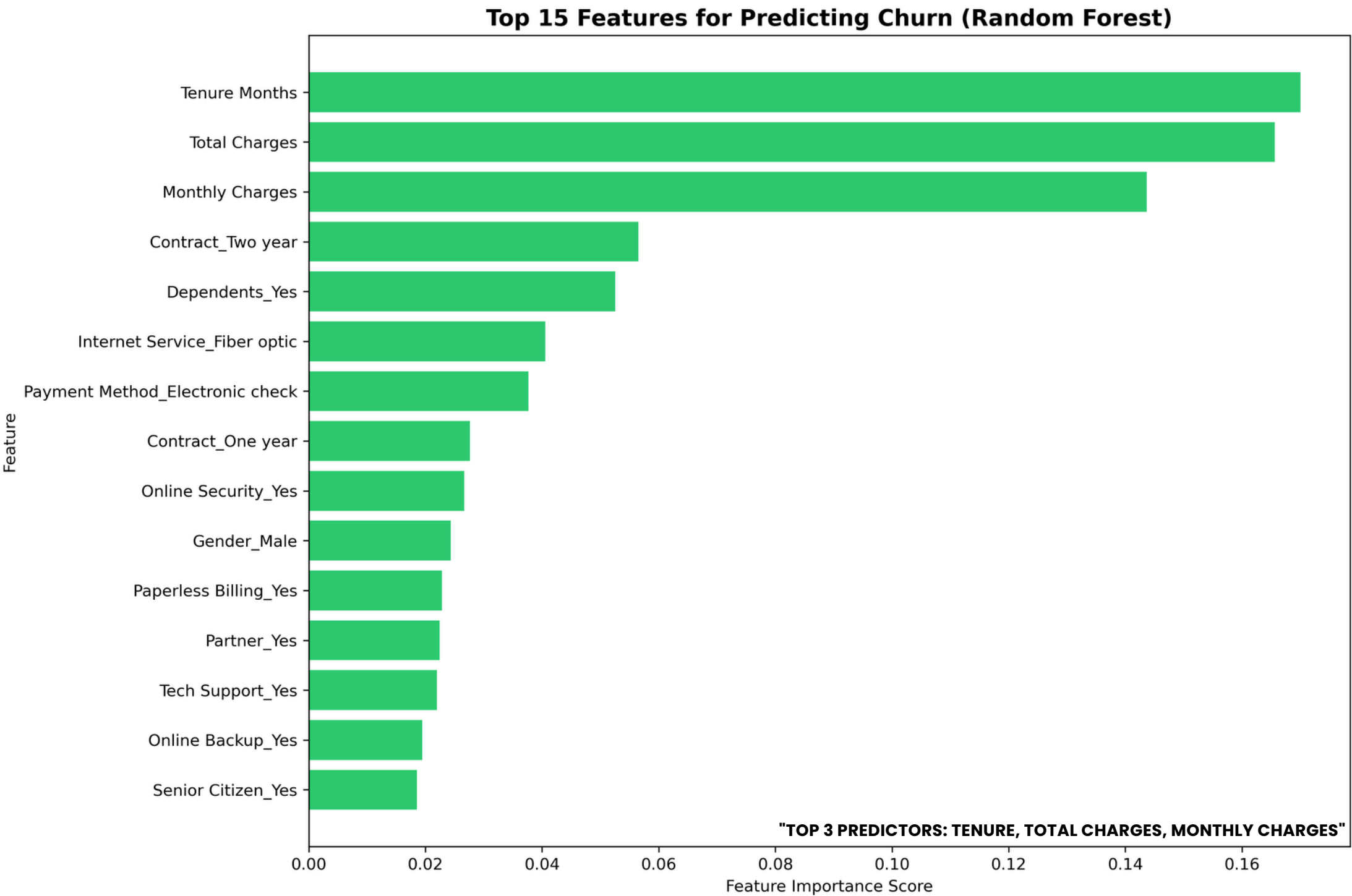www.linkedin.com/in/vadayogi | www.github.igavadayogi

BUSINESS IMPACT

ANNUAL REVENUE AT RISK: $1,669,540
CUSTOMERS MODEL IDENTIFIES: 1,064 (57% OF CHURNERS)
EXPECTED RETENTION SAVES: 319 CUSTOMERS ANNUALLY

NET REVENUE SAVED: $231,756 PER YEAR
ROI ON RETENTION INVESTMENT: 436%

MODEL IS 291X MORE EFFECTIVE THAN RANDOM CUSTOMER OUTREACH

KEY INSIGHTS

1. CONTRACT TYPE = STRONGEST PREDICTOR
   MONTH-TO-MONTH CUSTOMERS CHURN AT 42.71% VS. 2.83% FOR 2-YEAR CONTRACTS

2. EARLY TENURE = HIGH RISK
   CHURNED CUSTOMERS AVERAGE 18 MONTHS TENURE VS. 37.6 FOR RETAINED CUSTOMERS

3. PRICE-VALUE GAP
   CHURNED CUSTOMERS PAY $74/MONTH VS. $61 FOR RETAINED - SUGGESTS VALUE PERCEPTION ISSUE

Top 15 Features for Predicting Churn (Random Forest)

"TOP 3 PREDICTORS: TENURE, TOTAL CHARGES, MONTHLY CHARGES"

RECOMMENDATION:
DEPLOY MONTHLY CHURN SCORING FOR ALL CUSTOMERS. PRIORITY INTERVENTION FOR MONTH-TO-MONTH CONTRACTS WITH <18 MONTHS TENURE PAYING ABOVE-AVERAGE MONTHLY CHARGES.

GET IN
TOUCH

PHONE

+62 8113035661

EMAIL

raharjaagungvadayogi@gmail.com

SOCIAL

www.linkedin.com/in/vadayogi

IGUSTI RAHARJA