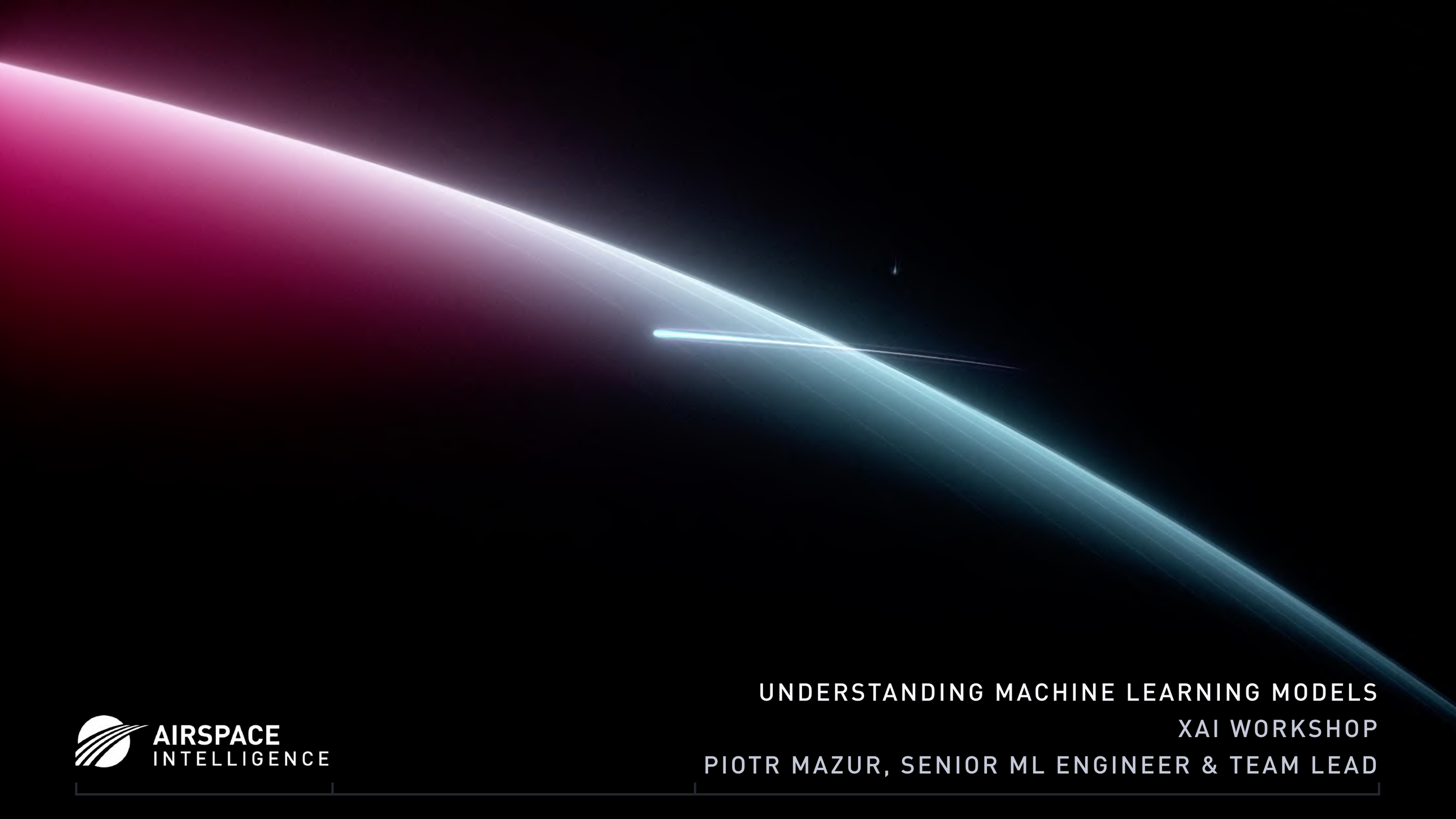


UNDERSTANDING MACHINE LEARNING MODELS

XAI WORKSHOP

PIOTR MAZUR, SENIOR ML ENGINEER & TEAM LEAD

AIRSPACE INTELLIGENCE

Agenda

About Airspace Intelligence

Why do we need XAI?

Coding

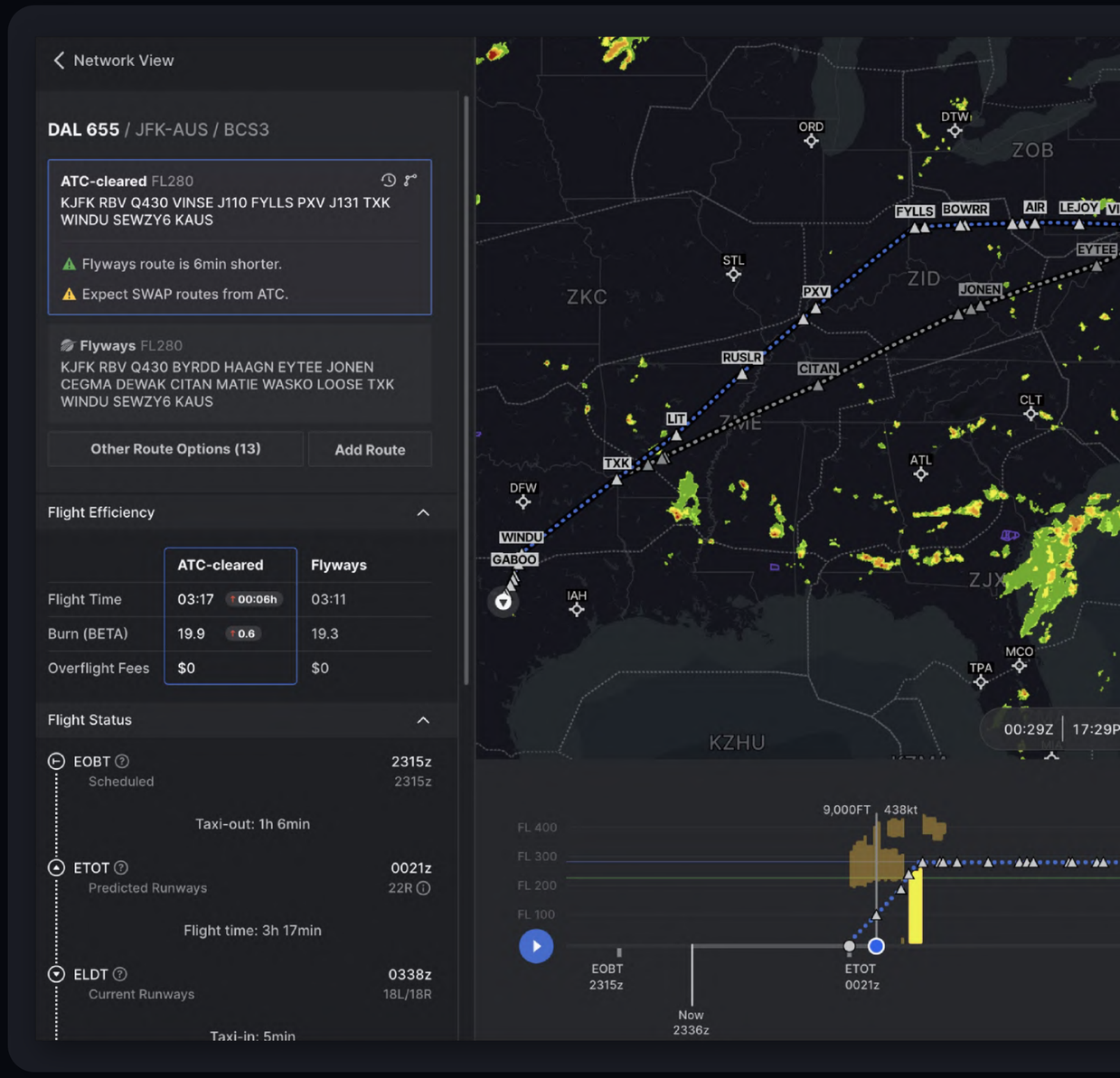
- Feature Importance
- Partial Dependence Plots
- SHAP Values

What to do when explaining black-box is not enough?

FLYWAYS AI™ PLATFORM

The operating system for airline network operations.

Flyways is an AI-enabled platform designed to accelerate & improve operational decision making capabilities in the world's most complex and dynamic airspace.



Airspace Intelligence

TEAM & OFFICE

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Model made bad prediction, how do you tell what caused it?

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How to tell which features are important and which are not? What kind of data should we collect?

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Building trust

From the engineers to users, everyone should trust the models.

Prepare your environment

http://piomazur.pl/xai-zip

Coding

👉 Feature Importance
Partial Dependence Plots
SHAP Values

Coding

✅ Feature Importance

👉 Partial Dependence Plots

SHAP Values

Coding

- ✅ Feature Importance
- ✅ Partial Dependence Plots
- 👉 SHAP Values

Interpretable models

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👉Linear Regression

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👉 Decision Tree

Interpretable models

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- 👉 GAM - Generalized Additive Model

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- ✅ Linear Regression
- ✅ Decision Tree
- ✅ GAM - Generalized Additive Model
- 👉 EBM - Explainable Boosting Machine

Sources

- https://www.kaggle.com/learn/machine-learning-explainability
- https://xai-aniti.github.io/ethik/tutorials/partial-dependence-plot.html
- https://shap.readthedocs.io/en/latest/
- https://christophm.github.io/interpretable-ml-book/index.html
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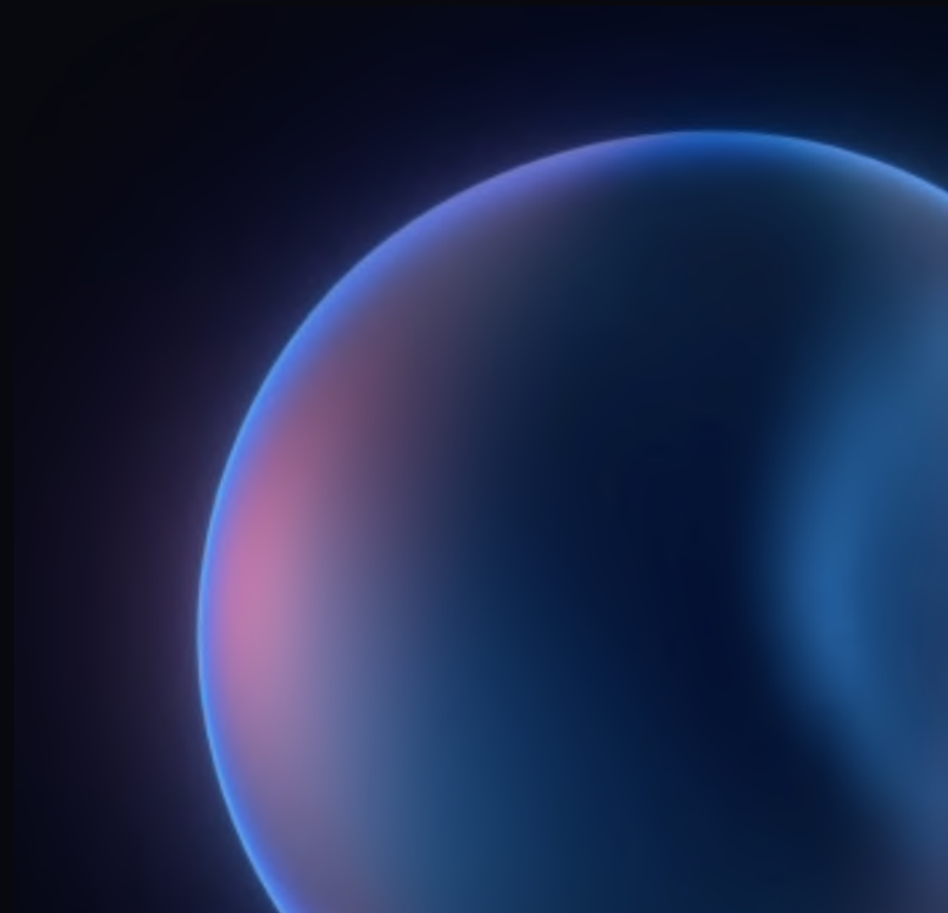

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