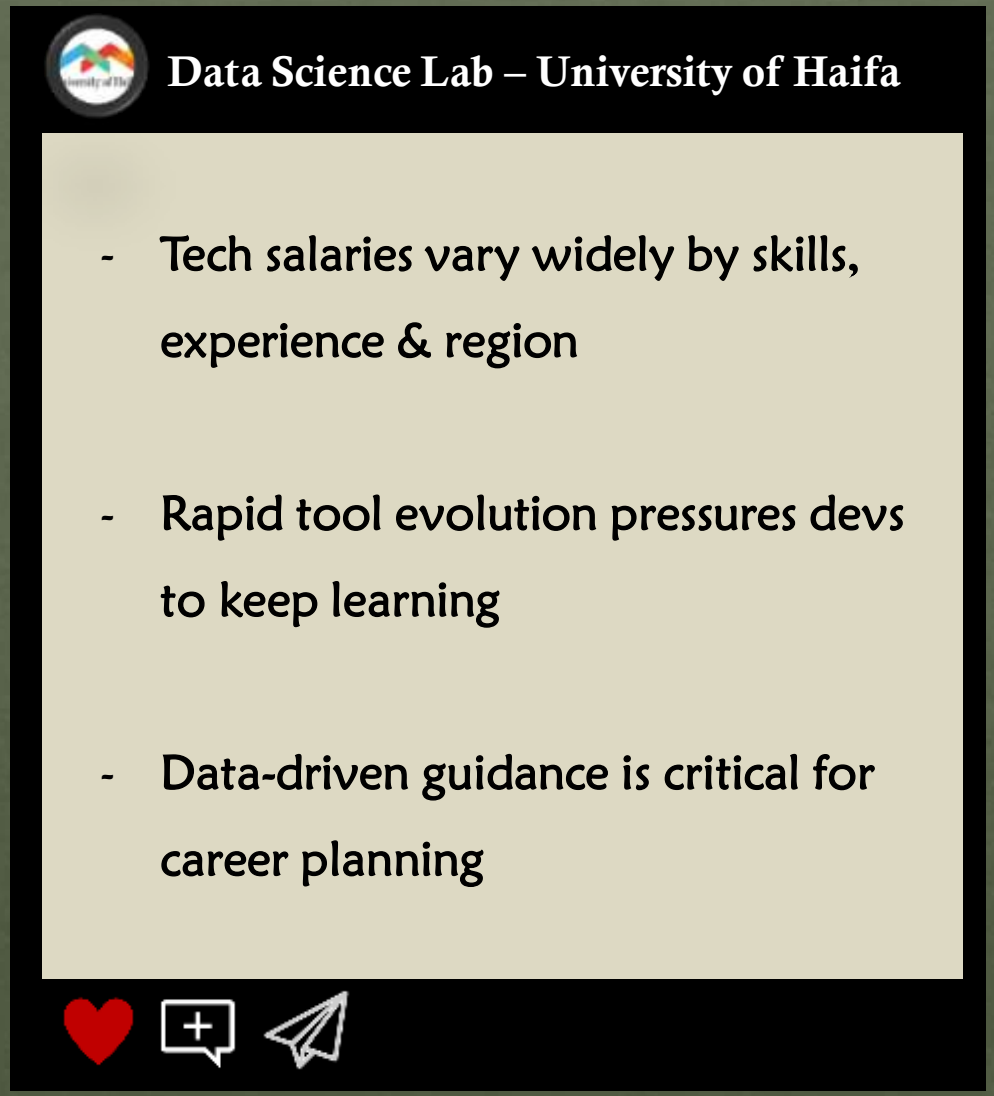
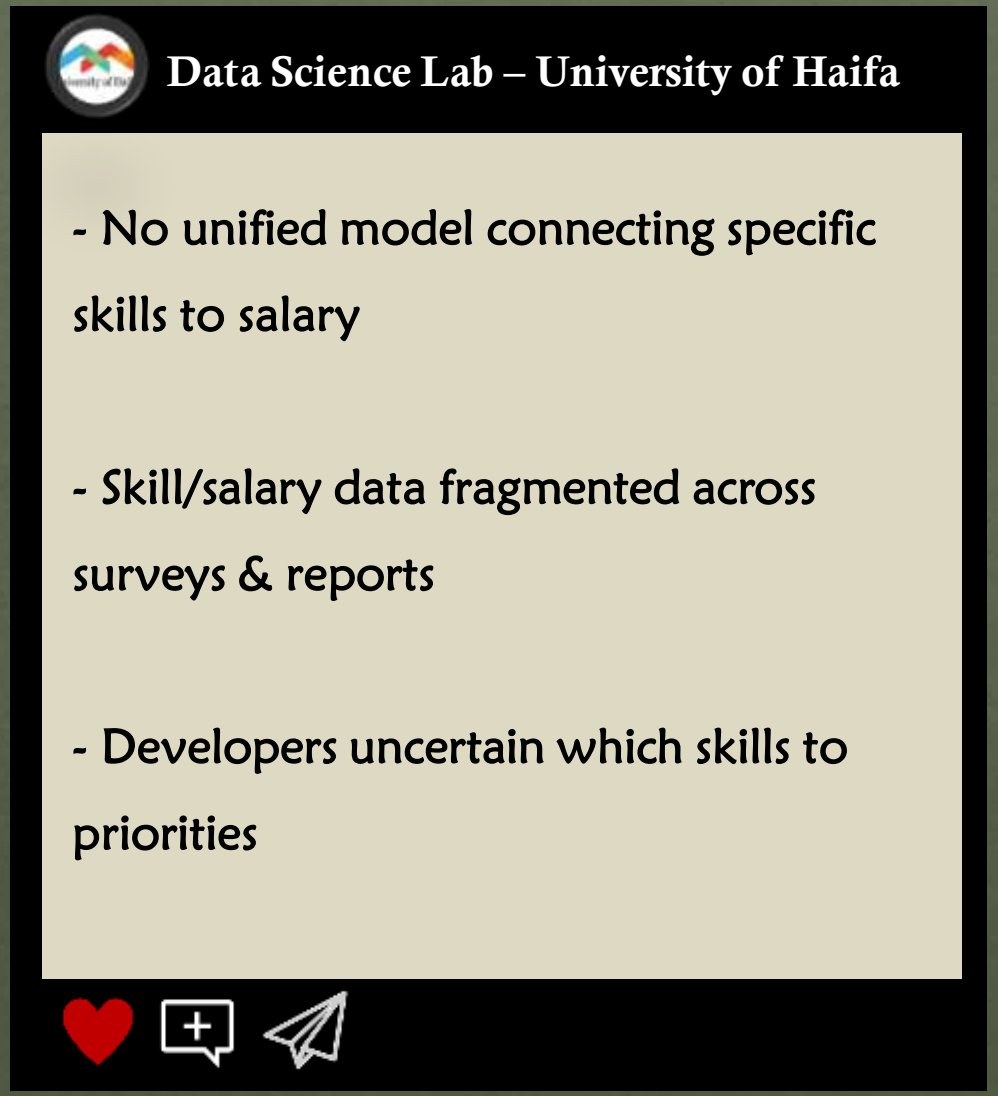
Predicting Developer Salaries & Skill Trends

A Data-Driven Approach to
Skill Demand and Career Growth

Hosni Abomokh & Itay Pizanty

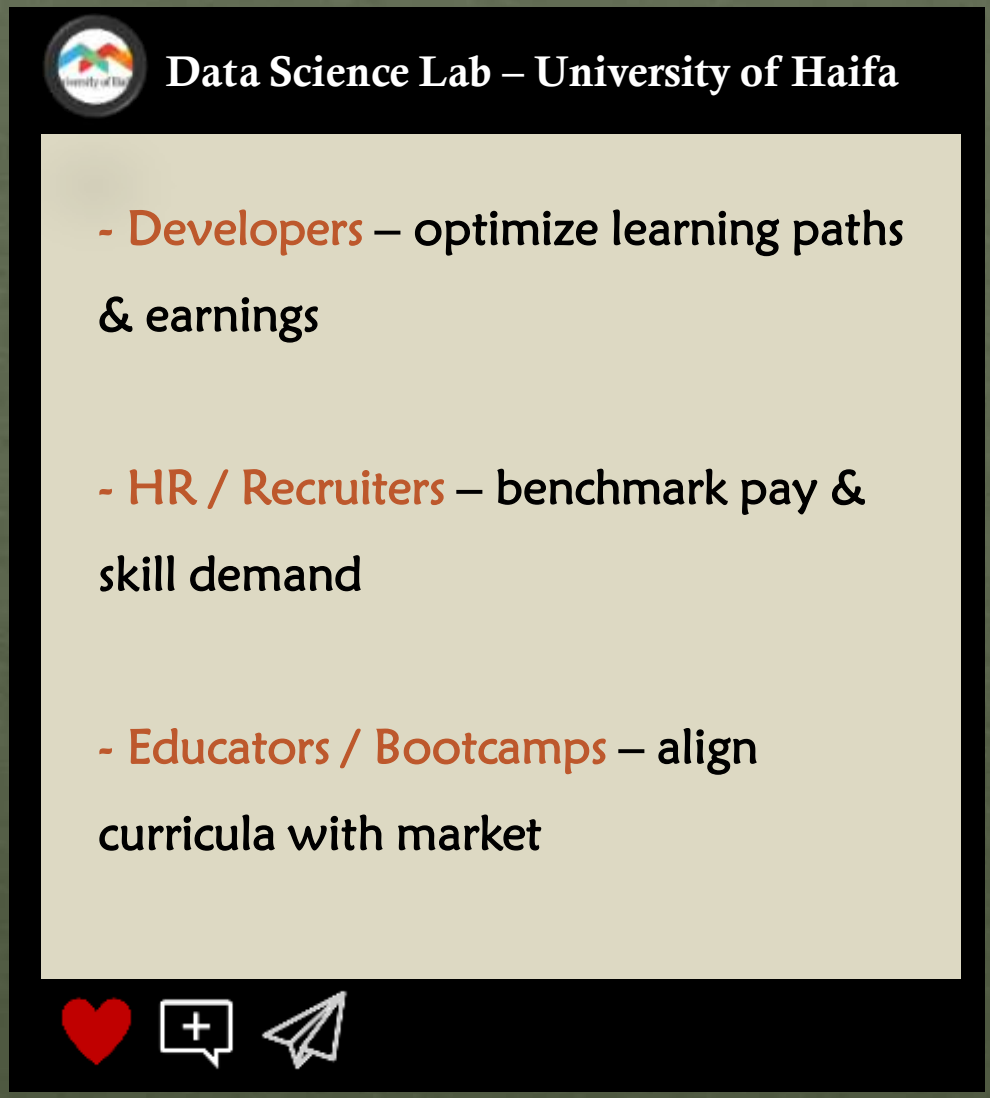
Background


Data Science Lab – University of Haifa
- Tech salaries vary widely by skills, experience & region
- Rapid tool evolution pressures devs to keep learning
- Data-driven guidance is critical for career planning



Gap and Problem Statement

Stakeholders & Insights Needed



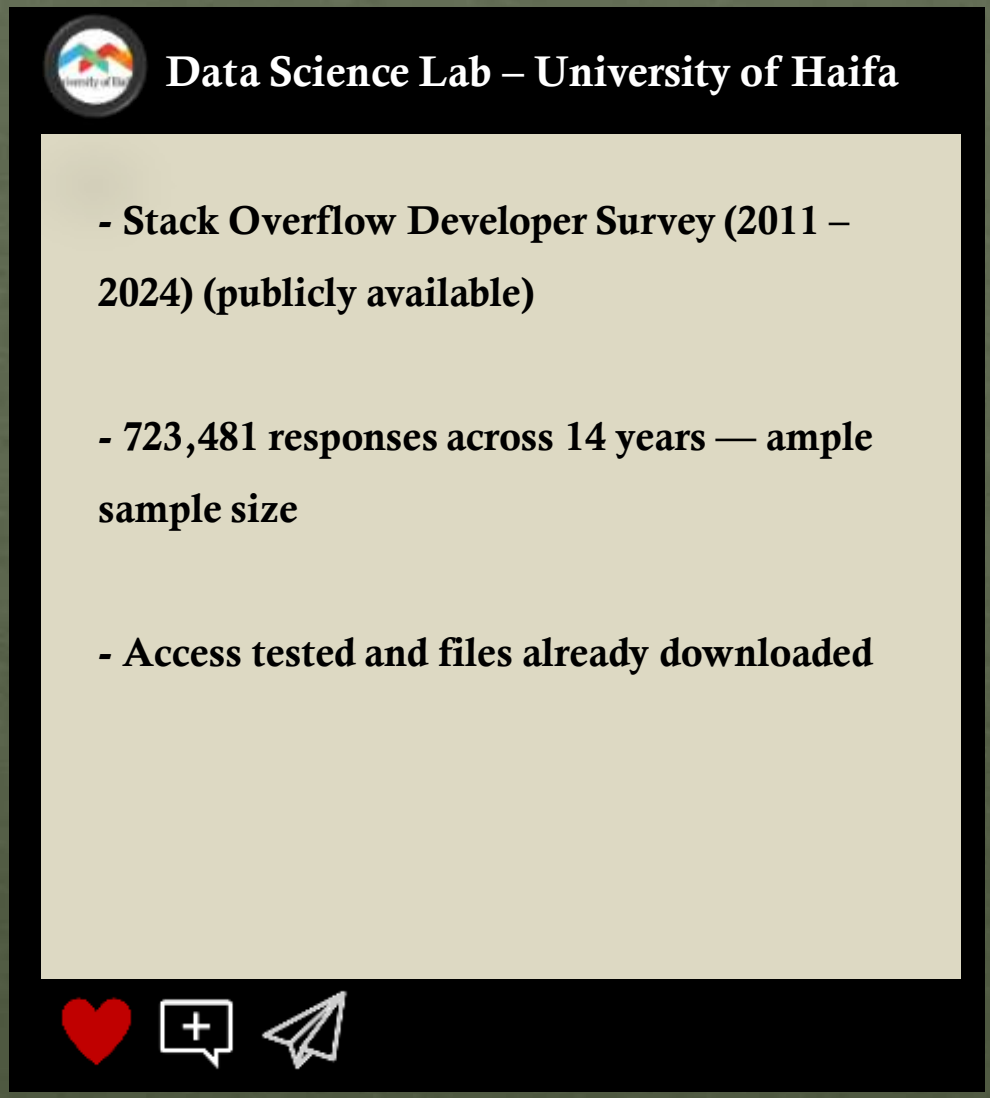
Aim & Research Questions

RQ1: Main factors influencing developer pay?

RQ2: How has skill demand changed over time?

RQ3: How accurately can we forecast salary?

Data Sources & Access



7 Years · 900 K + Responses · Salary Coverage up to 63 %

YEAR	RESPONSES	SALARY RECORDS	% SALARY AVAILABLE	MEAN (USD)	MEDIAN (USD)	STD (USD)	25TH %ILE	75TH %ILE	SALARY COL
2017	51392	12891	25.08	56298.48	50000	39880.91	26440.37	80000	Salary
2018	98855	47702	48.25	95780.86	55075	202348.2	23844	93000	ConvertedSalary
2019	88883	55823	62.81	127110.7	57287	284152.3	25777.5	100000	ConvertedComp
2020	64461	34756	53.92	103756.1	54049	22688.3	24648	95000	ConvertedComp
2021	83439	46844	56.14	118426.2	56211	527294.4	27025	100000	ConvertedCompYearly
2022	73268	38071	51.96	170761.3	67845	781413.2	35832	120000	ConvertedCompYearly
2023	89184	48019	53.84	103110.1	74963	681418.8	43907	121641	ConvertedCompYearly
2024	65437	23435	35.81	86155.29	65000	186757	32712	107971.5	ConvertedCompYearly

Planned Methods

Models

Classification models (Logistic Regression, Random Forest, XGBoost)

Feature Importance

Focus on years of coding experience, core programming languages, education level, and region

Risks & Next Steps

Contingency Plan

Re-weight under-represented groups to correct bias
Enrich data with public salary reports if gaps persist

Risks

Missing or self-censored salary figures
Survey bias toward certain regions or roles

Next Steps

Data extraction & cleaning → Exploratory analysis → Feature engineering → Modeling & validation

Our model will illuminate which skills pay off today and

reveal tomorrow's hot technologies.

We're happy to take your questions