Agenda

1. Shorelight
   Who we are

2. Student Journey
   Our version of the conversion funnel

3. The problem of Visa Melt
   Numbers

4. Predictive Analytics
   The Big Picture
   Machine learning to identify students at risk of visa rejection

5. Challenges and Results
   Road blocks for a data science project
   Results and Actionable Outcomes

6. Shorelight and Anblicks
   How to make it work
Objectives

• Understand what Shorelight is and how we help universities and international students succeed

• Walk you through a problem and solution that helped drive an incremental $1.5M in the month of January 2020

• Describe the specific challenges we faced both from a business perspective and a data analytics perspective
Katie
HO CHI MINH CITY, VIETNAM

Major: Communications
Undergraduate student at University of South Carolina

Yang
XIAMEN, CHINA

Major: Mechanical Engineering
Postgraduate student at Auburn University

Adela
BOWSHAR, OMAN

Major: International Relations
Undergraduate student at Florida International University
1.1 million international students in the U.S. today
Challenging admissions process

>2,500 universities
2-sided problem: Shorelight provides the solution

**Problems for Universities**

GLOBALLY DISTRIBUTED CUSTOMER BASE

200+ COUNTRIES & TERRITORIES

31K+ CITIES & TOWNS

**Problems for International Students**

TOO MANY OPTIONS & POOR OUTCOMES

2,500+ INSTITUTIONS

63% FIRST-YEAR RETENTION

SHORELIGHT
Choice of high quality universities.
On-the-ground teams with access to nearly every country.

Local insight and alignment
Local admissions support
Local marketing support

Shorelight regional office
Shorelight presence
We are a relatively young company, growing rapidly
Part of why we’re able to grow rapidly, but also poses a unique challenge

Real graph, hidden numbers
The funnel from Prospect-to-Arrival on campus.
The funnel from Prospect-to-Arrival on campus
The funnel from Prospect-to-Arrival on campus

Considering study abroad  Prospect  Qualified Prospect  Apply  Deposit  Visa  Arrive

Enrollment Services Team

JANUARY 2020 INTAKE
The funnel from Prospect-to-Arrival on campus

Enrollment Services Team

JANUARY 2020 INTAKE

Expectation going into the intake: 60%-to-64% → 1,280+ Students paying $22K each

64% “Target”

BEFORE

Considering study abroad
Prospect
Qualified Prospect
Apply
Deposit
Visa
Arrive
The funnel from Prospect-to-Arrival on campus

Enrollment Services Team

**Before**

- **Prospect**
- **Qualified Prospect**
- **Apply**
- **Deposit**
- **Visa**
- **Arrive**

JANUARY 2020 INTAKE

**Expectation going into the intake**: 60%-to-64%

**1,280+ Students paying $22K each**

**820 Students**

Every 1 point improvement at this stage equates to 13 students and $300K in incremental tuition

64% “Target”
The funnel from Prospect-to-Arrival on campus

**Enrollment Services Team**

**BEFORE**

Expectation going into the intake: 60%-to-64% → 1,280+ Students paying $22K each → 820 Students

64% “Target”

**AFTER**

Actuals → 1,280+ Students paying $22K each → 887 Students

69.2% Actuals

**JANUARY 2020 INTAKE**
Problem Statement

Predict the students who are at risk of getting a visa rejection so the enrolment services team can:

1. Prioritize the high risk students in their workflow
2. Work with the candidate to strengthen his/her profile through Visa preparation sessions
Enrolment Services (ES) Workflow

BEFORE
First-In-First-Out

ALERT
ES team gets an alert as soon as the deposit is paid

DISCOVERY CALL (FIFO)
Discovery Call: A fixed set of questions are asked to determine readiness for visa interview

FOLLOW-UP (FIFO)
Follow-up with students to verify documents needed for visa appointment

RECORDED IN CRM
Observations from prep-sessions are captured in CRM. And subsequent sessions are setup

salesforce
Enrolment Services (ES) Workflow

**BEFORE**

- **ALERT**
  - First-In-First-Out
  - ES team gets an alert as soon as the deposit is paid

- **DISCOVERY CALL (FIFO)**
  - Discovery Call: A fixed set of questions are asked to determine readiness for visa interview

- **FOLLOW-UP (FIFO)**
  - Follow-up with students to verify documents needed for visa appointment

- **RECORDED IN CRM**
  - Observations from prep-sessions are captured in CRM. And subsequent sessions are setup

**AFTER**

- **ALERT**
  - Highest Priority
  - ES team gets an alert as soon as the deposit is paid

- **AUTOMATED ASSESSMENT**
  - Students answer standardized questions prior to discovery call

- **PRIORITY SCORING**
  - Effectively utilize visa scores to follow-up with high risk category students first

- **SCORING**
  - Go straight into more productive prep activities.

- **PRIORITY FOLLOW-UP**
  - Follow-up with students to verify documents needed for visa appointment

- **RECORDED IN CRM**
  - Observations from prep-sessions are captured in CRM. And subsequent sessions are setup
Using Machine Learning to surface Risk profiles

<table>
<thead>
<tr>
<th>Variable Names</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Nominal</td>
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<tr>
<td>Region</td>
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</tr>
<tr>
<td>Test Scores</td>
<td>Number</td>
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<td>Days until visa interview</td>
<td>Number</td>
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<td>Previous Visa rejection</td>
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<td>Major</td>
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<tr>
<td>City</td>
<td>Nominal</td>
</tr>
<tr>
<td>Weekday of Visa Interview</td>
<td>Number</td>
</tr>
<tr>
<td>Program Type</td>
<td>Nominal</td>
</tr>
<tr>
<td>Intake</td>
<td>Nominal</td>
</tr>
<tr>
<td>Level – UG/PG</td>
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</tbody>
</table>

Sample of variables

Model Building on the RapidMiner platform

Front end CRM

Risk Levels
- High
- Medium
- Low

Regular re-training of the model to keep up with new cases.
Data Flow and Solution Architecture

The process is designed to run daily. Scores are updated on SFDC at 6 AM EST everyday.

1. Application information is fed into DW.
2. Data from Salesforce is normalized and stored in DW.
3. Data is processed and scores are generated using Machine learning.
4. Applications are scored daily.

Additionally, Scores are also visible on Tableau online – visa success dashboard.
Challenges

Business and technical challenges

1. **Process improvement / operations**: Sub-optimal process. Breaking them down into phases creating opportunities for efficiencies

2. **Evolution of Organization** – As we grow and spread our wings on to the newer areas of the industry, we find ourselves in cases/situations that model has never seen.

3. **Global footprint**: Rapid implementation of solutions globally

4. **Data Availability** – Capturing the right set of data points (that relate to the outcome)

5. **Adoption Strategy** – Convincing the stakeholder of the value. And seamlessly embed the solution in their workflow

6. **Feedback Loops** – Regular feedbacks on the solution. Understand what’s not going right.
# Results

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<th>Risk Assessment by category</th>
<th>Visa</th>
<th>No Visa</th>
<th>Total</th>
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<tbody>
<tr>
<td>High</td>
<td>496</td>
<td>379</td>
<td>875</td>
</tr>
<tr>
<td>Medium</td>
<td>205</td>
<td>11</td>
<td>216</td>
</tr>
<tr>
<td>Low</td>
<td>186</td>
<td>5</td>
<td>191</td>
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<tr>
<td>Total</td>
<td>887</td>
<td>395</td>
<td>1,282</td>
</tr>
</tbody>
</table>
Results

Deprioritization: low-risk and medium-risk students were deprioritized because they were going to get visas anyway.

Prioritization: high-risk students were prioritized to help with prep sessions, increasing their chances of getting a visa and enrolling in programs.

Table: Visa Issuance

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Saving an estimated **135 hours** of rote work in the month leading up to visa issuance.
END