

Altocumulus Industries

Advanced, Modular Facial Recognition for the Masses

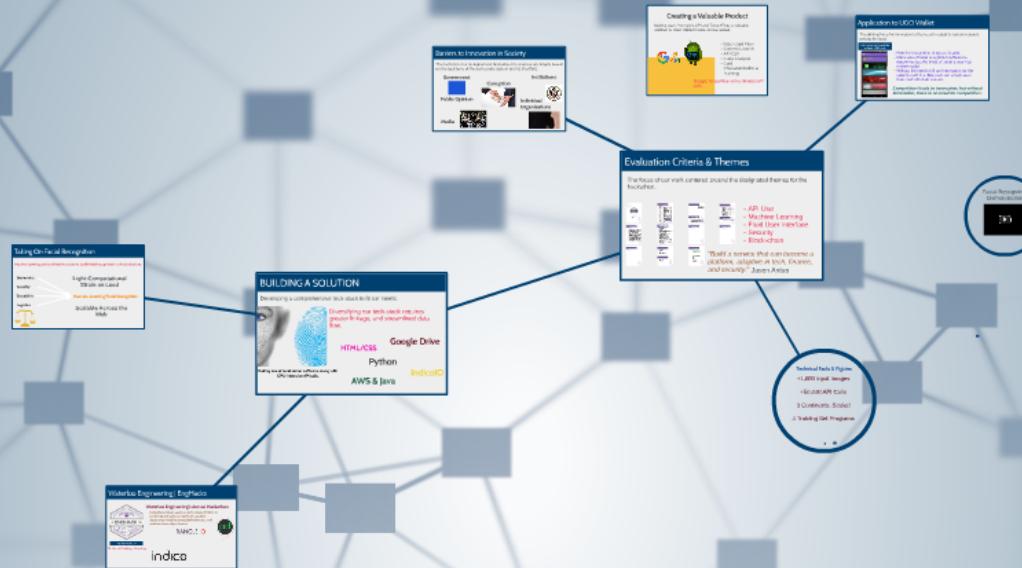
PRESENTATION & ANALYSIS COMPLETED BY JASON S. ANTAO



Jason Antao, Jeffrey Zhang



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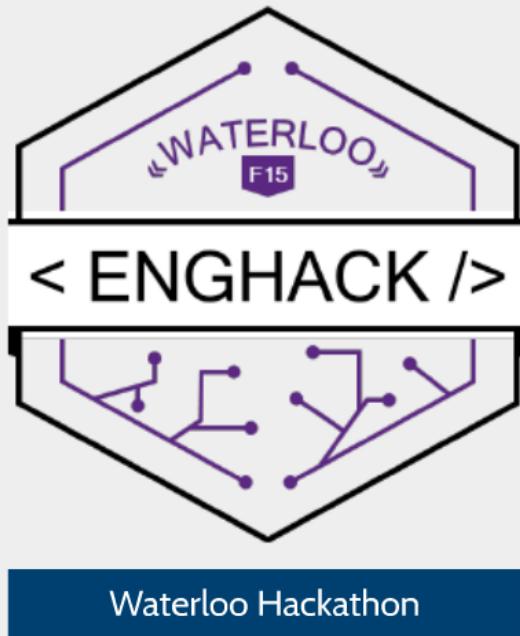
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Waterloo Engineering | EngHacks



24 Hrs of Building. Creating.

Waterloo Engineering's Annual Hackathon

Using the technical resources and prowess of Waterloo to develop and solve and optimize a societal dependency. Enabling embedded informatics with machine-heavy dependencies.



RANGLE.IO

<stdlib>

indico RITUAL



Prezi

Taking On Facial Recognition

Machine Learning can be utilized in society to tackle facial recognition in critical situations.

Economics

Security

Sociability

Logistics



**Light-Computational
Strain on Load**

Machine-Learning Facial Recognition

**Scalable Across the
Web**

BUILDING A SOLUTION

Developing a comprehensive tech-stack to fit our needs.



Diversifying our tech-stack requires greater linkage, and streamlined data flow.

HTML/CSS

Google Drive

Python

IndicolIO

AWS & Java

Making use of local server software, along with
CPU-intensive API calls.

Technical Facts & Figures

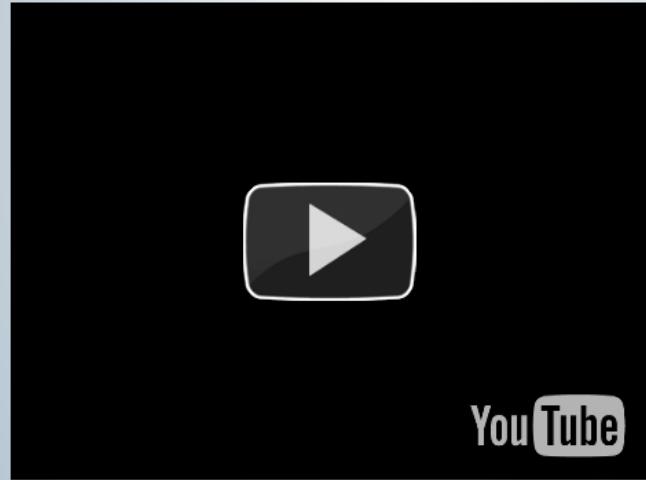
+1,600 Input Images

+50,000 API Calls

3 Continents, Scaled

4 Training Set Programs

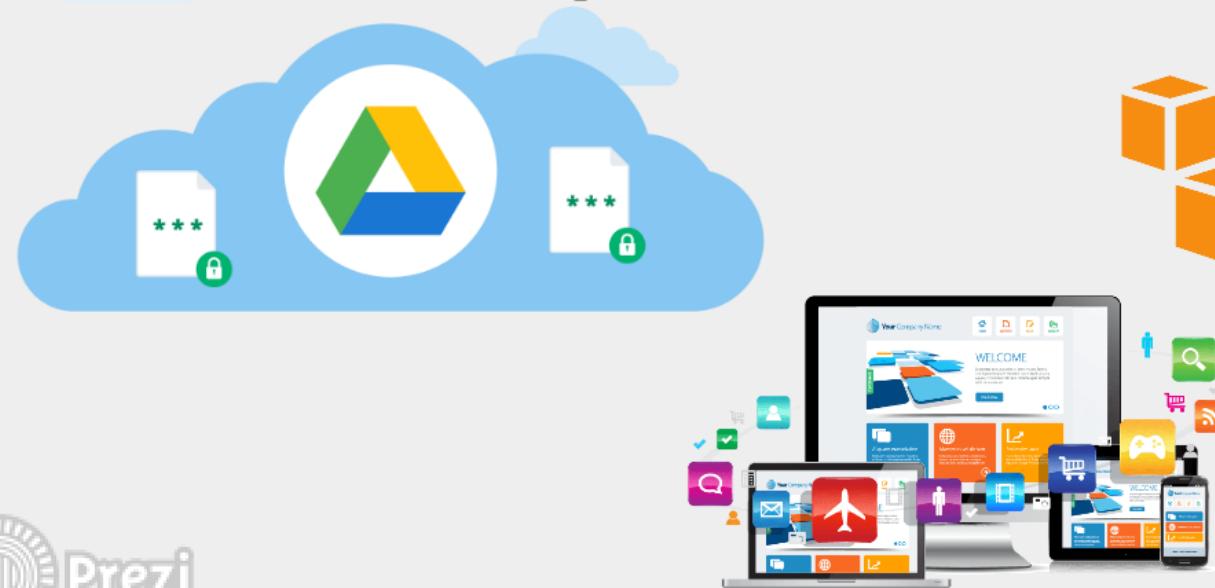
Efficient Software. Scalable Use.
Product Deployment - Mock 1



Measures of Improvement

Upon completion, many factors of the product were open to be improved and optimized.

- Transfer Software to the Cloud
- Host Images using Google Drive
- Stress-Test Software with Thousands of Images
- Front-Facing U.I.



MENTORSHIP

With companies from around North America sponsoring EngHacks, a wealth of professionals were available to consult and network-with.

CEOs, Founders, Hackers

Keith Horwood

Jacob B. Lee

Jennifer Tejada

I think kids should have a mentor and a role model, but that they shouldn't take one person's opinion to be what we call final assessment or judgment about how life is supposed to be.

• Sean Paul, Jamaica

Time-sensitive advice, technical knowledge, widespread goals.

Barriers to Innovation in Society

The barriers to technological and biomedical innovations are largely based on the backbone of the democratic system and its shortfalls.

Government



Public Opinion



Media

Corruption



Institutions



Individual Organizations







+





pagerduty





NEW
SPEAKER

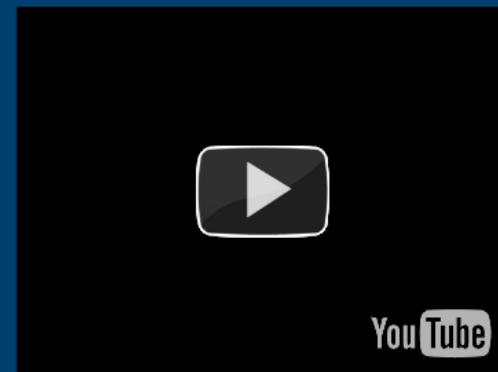
JACOB LEE

stdlib

VueConf



You Tube



A portrait of a smiling man with dark hair, wearing a grey suit jacket and a pink shirt, giving a thumbs-up gesture.

NEW
SPEAKER

JACOB LEE

stdlib

VUE·CONF

A speaker profile card for Jacob Lee, a new speaker at VUE·CONF. It includes his photo, name, affiliation with stdlib, and the conference logo.

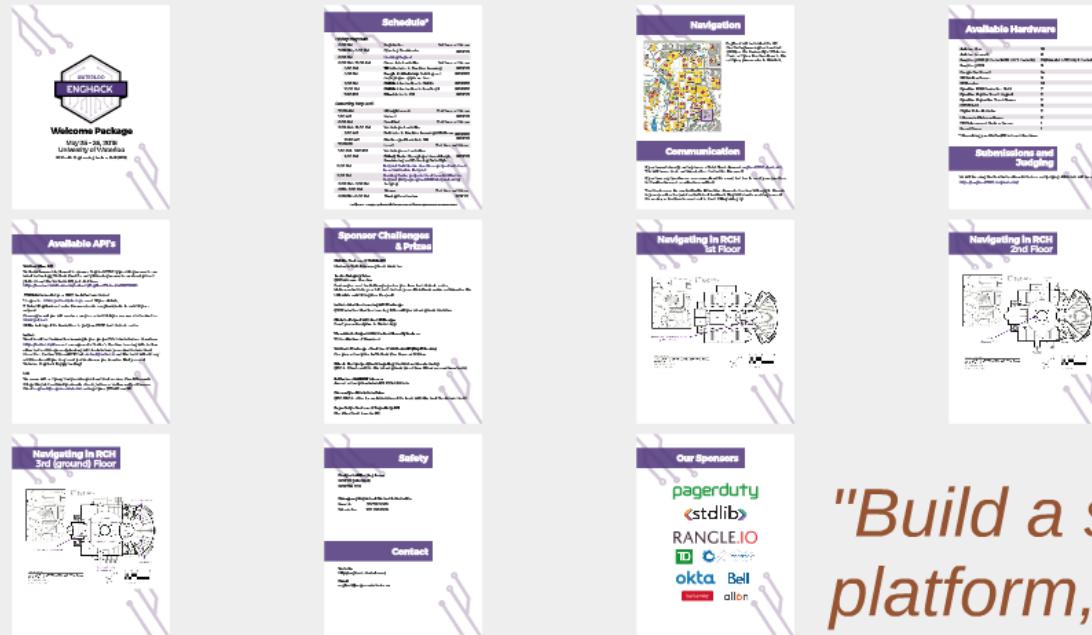
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Evaluation Criteria & Themes

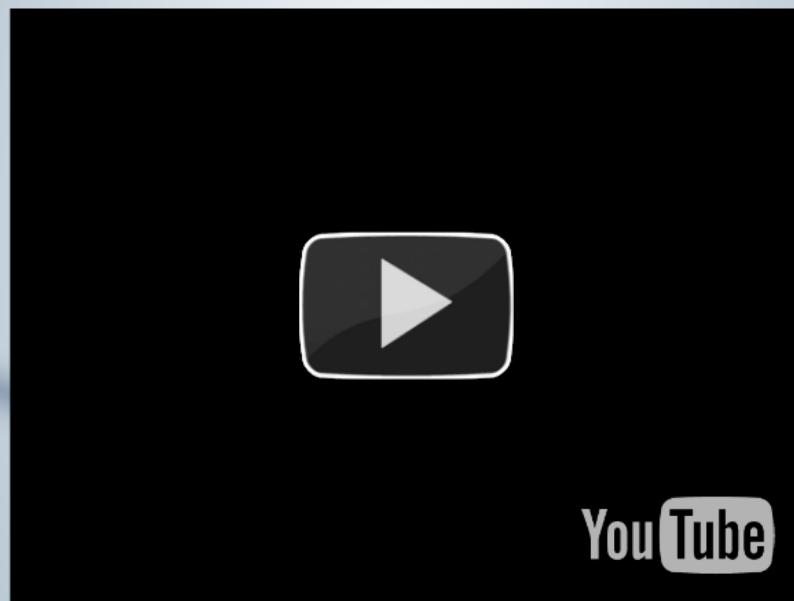
The focus of our work centered around the designated themes for the hackathon.



- API Use
- Machine Learning
- Fluid User Interface
- Security
- Block-chain

"Build a service that can become a platform, adaptive in tech, finance, and security." Jason Antao

Facial Recognition Demonstration





You Tube

IMPROVEMENTS

Building upon my working product, how could I increase its use, while making it more robust?

- Increased photo processing
- User authentication via Front-Facing Site
- Multi-AZ Protection through AWS
- Application Integration

Test it till it breaks. Then weld a plate to seal the issue.

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Application to UGO Wallet

The driving force for innovation is the need to adapt to remain relevant among the best.

Machine-Learning Recognition
for Cards | UGO Wallet



- POC for recognition of types of cards.
- Make use of facial recognition software to determine specific kinds of cards a user has in their wallet.
- Without the need to fill out information for the specific card in a flow, user can simply scan their card with their camera.

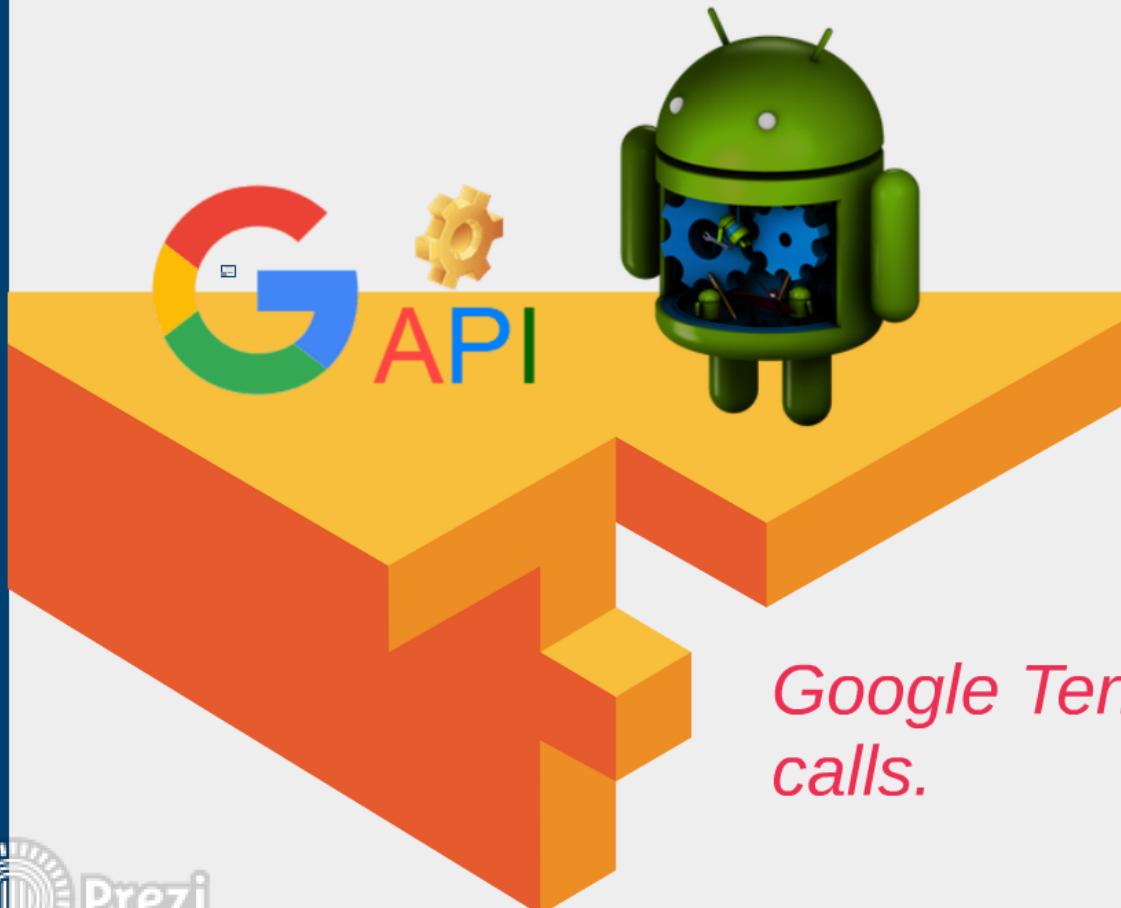
Competition leads to innovation, but without innovation, there is no need for competition.



Prezi

Creating a Valuable Product

Making use of Google's API and TensorFlow, a valuable addition to UGO Wallet's suite can be added.



- UGO Card Flow
- Camera Launch
- API Call
- Code Analysis
- Card Characterization & Training

Google Tensorflow with unlimited API calls.

Thank you, UGO Team

Questions, Remarks? Please Ask.

Jason Antao, Danny Lan, Jeffrey Zhang

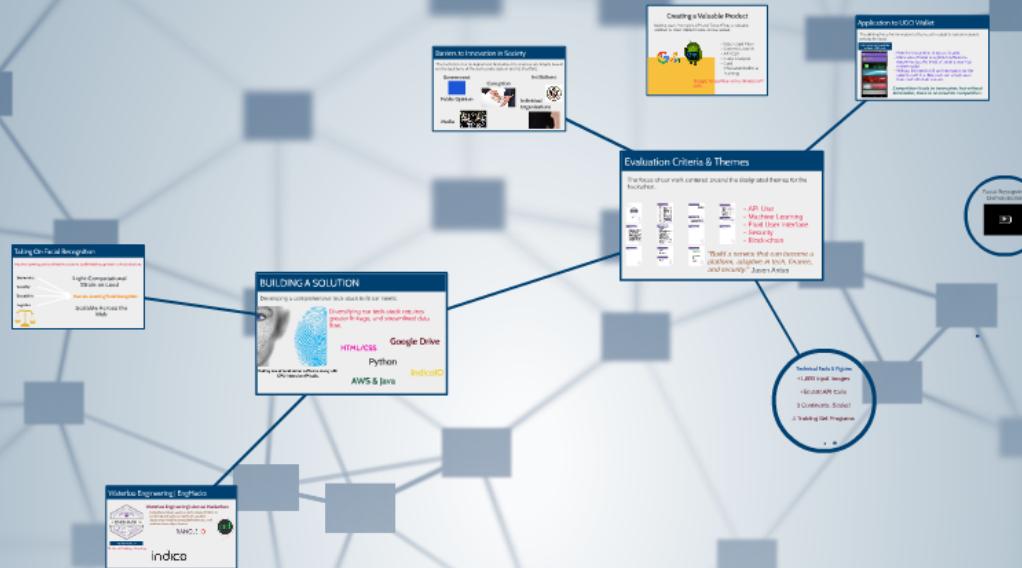


Presentation Created by Jason S. Antao

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AN ANTAO PRESENTATION

Jason Antao, Jeffrey Zhang



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