MICHIGAN STATE UNIVERSITY

Alpha Presentation

Cognitive Enterprise Software Robots

The Capstone Experience

Team Volkswagen

Kevin Gu
Amelia Wilson
Fynn Reckhorn
Maryam Irannejad Najafabadi
Zachary McCullough

Department of Computer Science and Engineering
Michigan State University

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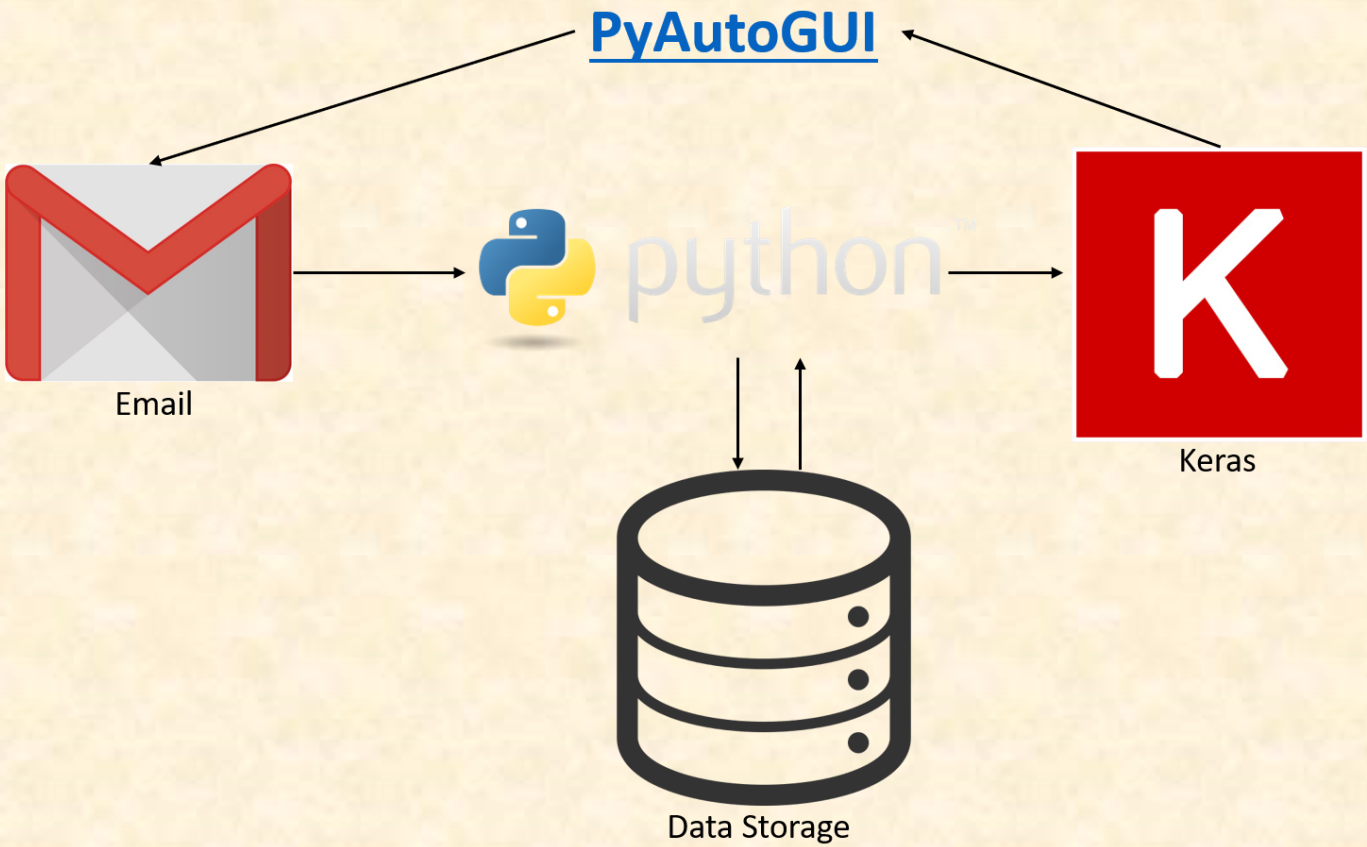
From Students…
…to Professionals

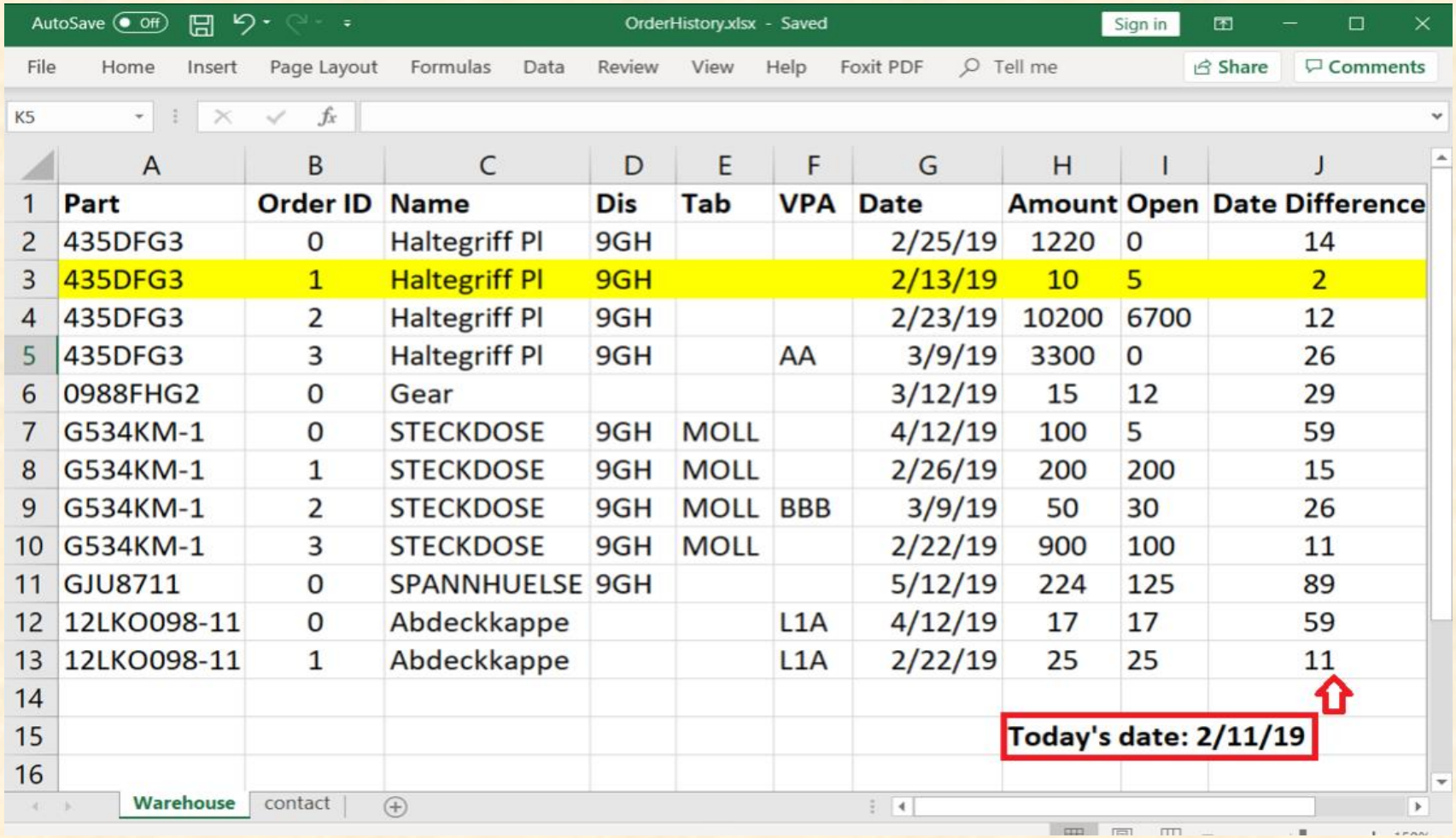
Project Overview

- Software business bot to automate daily tasks
- PyAutoGUI to automate keyboard and mouse inputs
- Keras/Tensorflow to predict and learn future clicks
- Ability to log clicks in order to learn tasks and monitor bot's performance
- Natural Language Processing to be able to interpret emails and perform business tasks

System Architecture

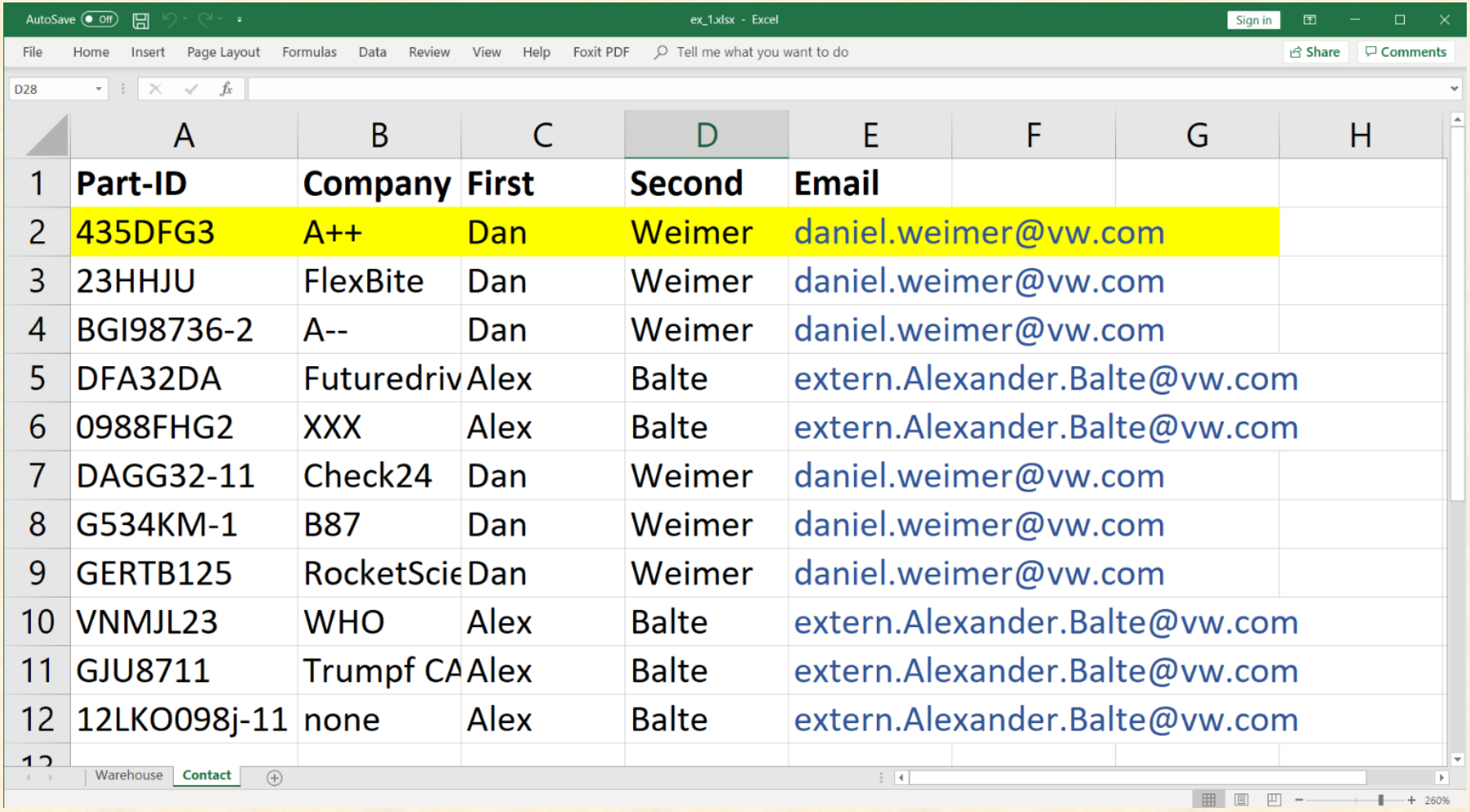


Screen Mockup: Calculating Date Difference



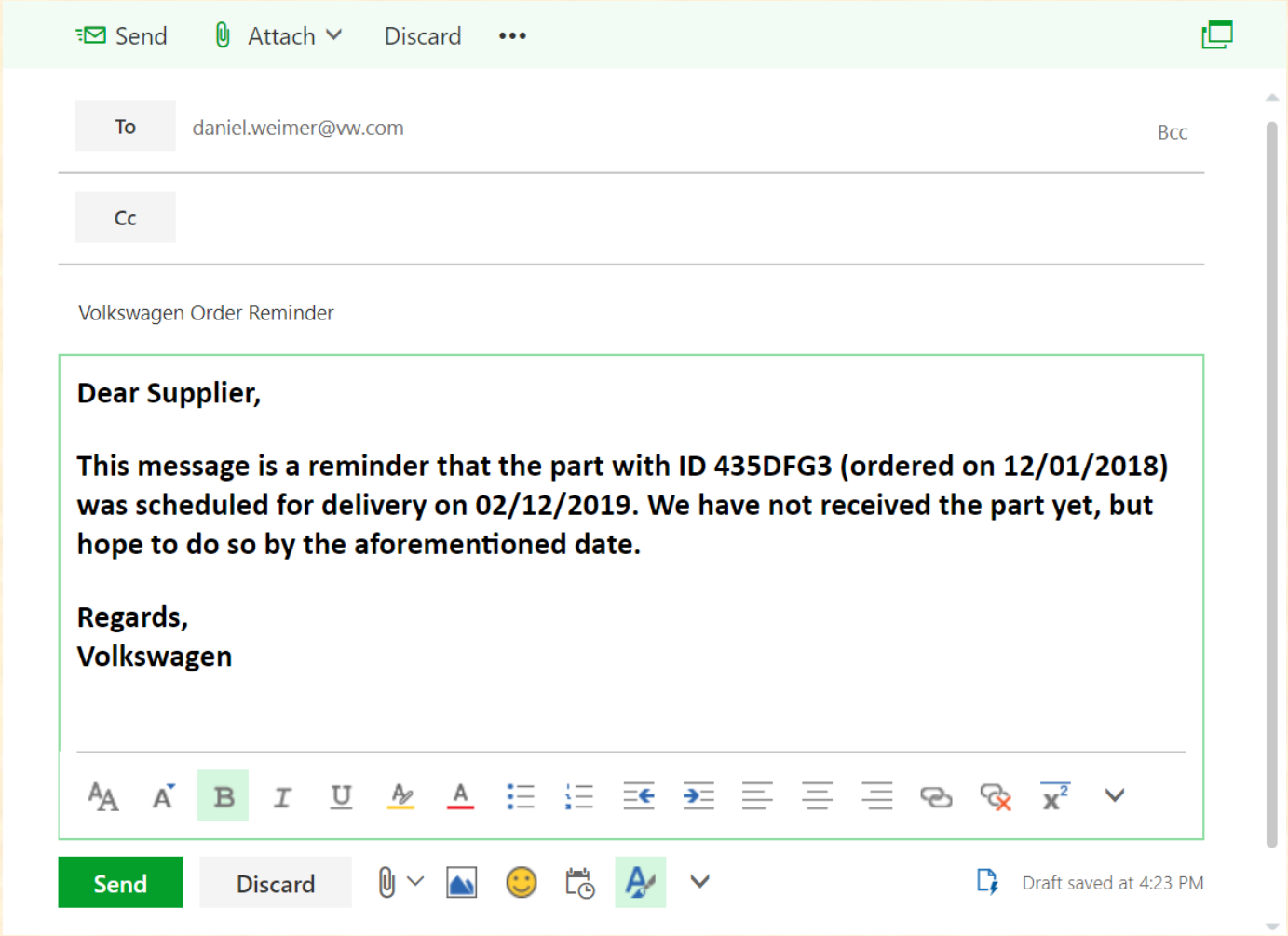
	A	B	C	D	E	F	G	H	I	J
1	Part	Order ID	Name	Dis	Tab	VPA	Date	Amount	Open	Date Difference
2	435DFG3	0	Haltegriff Pl	9GH			2/25/19	1220	0	14
3	435DFG3	1	Haltegriff Pl	9GH			2/13/19	10	5	2
4	435DFG3	2	Haltegriff Pl	9GH			2/23/19	10200	6700	12
5	435DFG3	3	Haltegriff Pl	9GH		AA	3/9/19	3300	0	26
6	0988FHG2	0	Gear				3/12/19	15	12	29
7	G534KM-1	0	STECKDOSE	9GH	MOLL		4/12/19	100	5	59
8	G534KM-1	1	STECKDOSE	9GH	MOLL		2/26/19	200	200	15
9	G534KM-1	2	STECKDOSE	9GH	MOLL	BBB	3/9/19	50	30	26
10	G534KM-1	3	STECKDOSE	9GH	MOLL		2/22/19	900	100	11
11	GJU8711	0	SPANNHUELSE	9GH			5/12/19	224	125	89
12	12LKO098-11	0	Abdeckkappe			L1A	4/12/19	17	17	59
13	12LKO098-11	1	Abdeckkappe			L1A	2/22/19	25	25	11
14										
15								Today's date: 2/11/19		
16										

Screen Mockup: Parsing for Contact Information



	A	B	C	D	E	F	G	H
1	**Part-ID**	**Company**	**First**	**Second**	**Email**			
2	435DFG3	A++	Dan	Weimer	daniel.weimer@vw.com			
3	23HHJU	FlexBite	Dan	Weimer	daniel.weimer@vw.com			
4	BGI98736-2	A--	Dan	Weimer	daniel.weimer@vw.com			
5	DFA32DA	Futuredriv	Alex	Balte	extern.Alexander.Balte@vw.com			
6	0988FHG2	XXX	Alex	Balte	extern.Alexander.Balte@vw.com			
7	DAGG32-11	Check24	Dan	Weimer	daniel.weimer@vw.com			
8	G534KM-1	B87	Dan	Weimer	daniel.weimer@vw.com			
9	GERTB125	RocketScie	Dan	Weimer	daniel.weimer@vw.com			
10	VNMJL23	WHO	Alex	Balte	extern.Alexander.Balte@vw.com			
11	GJU8711	Trumpf CA	Alex	Balte	extern.Alexander.Balte@vw.com			
12	12LKO098j-11	none	Alex	Balte	extern.Alexander.Balte@vw.com			

Screen Mockup: Automated Email Composition



Screen Mockup: Clickstream File

Clickstream File

```
Lcontrol,W,T,Lcontrol,Lcontrol,Lcontrol,Lcontrol,T,A,S,D,F,Oem_Period,C,O,M,
Escape,Lmenu,Tab,Lmenu,Tab,Tab,Tab,Tab,Tab,Tab,Tab,Tab,Tab,Tab,Tab,Tab,Tab,Tab,Tab,Lcontrol,W,W,Tab,Lcontrol,W,
Lmenu,Tab,Lmenu,Tab,Lmenu,Tab,Lcontrol,W,Lcontrol,W,T,A,S,D,F,Oem_Period,C,O,M,
Lcontrol,T,A,S,D,F,Oem_Period,C,O,M,
Lcontrol,T,A,S,D,F,Oem_Period,C,O,M,
Lcontrol,T,A,X,C,V,A,Lcontrol,X,V,
Lcontrol,T,A,X,C,V,
Lcontrol,Lcontrol,T,V,
Lcontrol,T,V,
Lmenu,Tab,Tab,Lcontrol,C,Lcontrol,V,
Lmenu,Tab,Lmenu,Tab,Lmenu,Tab,Lmenu,Tab,Lmenu,Tab,Lmenu,Lmenu,Tab,
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Lmenu,Tab,Tab,Tab,Tab,Tab,Tab,Tab,Tab,Tab,Tab,Tab,Tab,Tab,Tab,Tab,Tab,Tab,Tab,Tab,Tab,Tab,
```

What's left to do?

- Improve current Machine Learning model to be able to predict more clicks in the future
- Build capability to read and interpret incoming emails and perform an appropriate task
- Develop a monitoring system in order to detect and handle errors
- Integrate all parts into a singular cohesive structure

Questions?