

# AI at Creighton

Online @ Lunch 9/29/2021

Robert Aki, MIS  
Ryan Cameron, Ed.D.

- Manages the Service Desk, Learning Environments, and Campus CSA teams
- ITIL v3 certified
- Customer advocate



**Robert Aki, MIS**  
IT Director  
Creighton University

- Longtime Ivy.ai customer, rookie team member.
- Former Creighton BlueJay! 2012-2020.
- Rad Lab Founder.
- Partially to blame or praise for #CampusClear.
- AI super-fan, researcher, author.



**Ryan M. Cameron, Ed.D.**

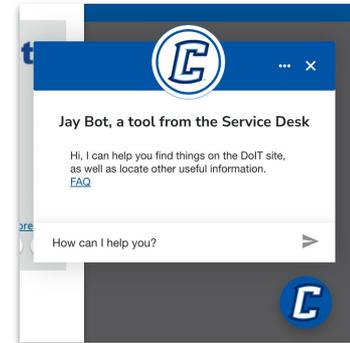
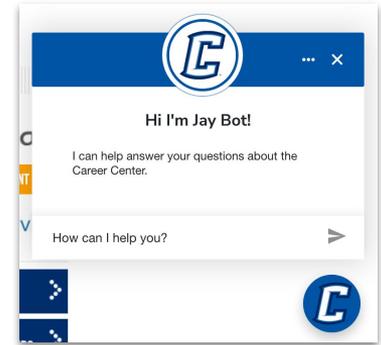
VP Strategy & Innovation

Ivy.ai

Creighton uses 2 Ivy.ai bots, myIT and Career Services.

### Quick Stats:

- myIT Bot: 1,692 Intents, 79% accuracy, Mondays at 1PM most popular time.
- Career Services Bot: 996 Intents, 89% accuracy, Mondays at 1PM most popular time.



## myIT Bot: Heatmap by Topic

How-To 1306	Password 689	Reset 330	How-To-Get 209
Email 672	Unable-To 824	Not-Working 429	Computer 240
How-To-Find 314	Access 403	Log-In 645	Ner-School_creighto... 285
What-Is-My 194	Tell-Me-More 240	Ner-School-Progra... 241	Account 300
Download 127	Help 140	Contact 155	Change 165

**Machine Learning & Artificial Intelligence:** ML is type of AI used to sort and process vast amounts of data. AI is an umbrella term for software / machines which process or appear similarly to a human intelligence.

**Intent:** An area of knowledge used to define what you want a bot to respond with when it picks up the intention of a user.

**Ontology:** A library of intents within a common theme, “IT Support” or “Financial Aid”.

**Extreme Multilabel Classification:** Finding the relevant labels for an input, from a very large universe of possible labels.

**Natural Language Processing:** NLP is the ability to understand text or voice in a human-like manner.

**Algorithm/s:** Formula/s used to sort, classify, rank, and organize data in ML. Algorithms are generally in 3 categories, supervised learning, unsupervised learning, and reinforcement learning. Ivy.ai uses a blend including, KNN, SVM, Decision Tree, Deep Learning, and several others.



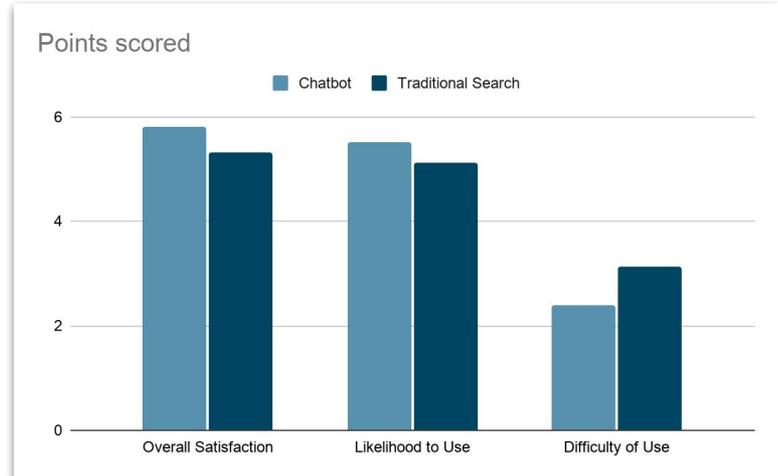
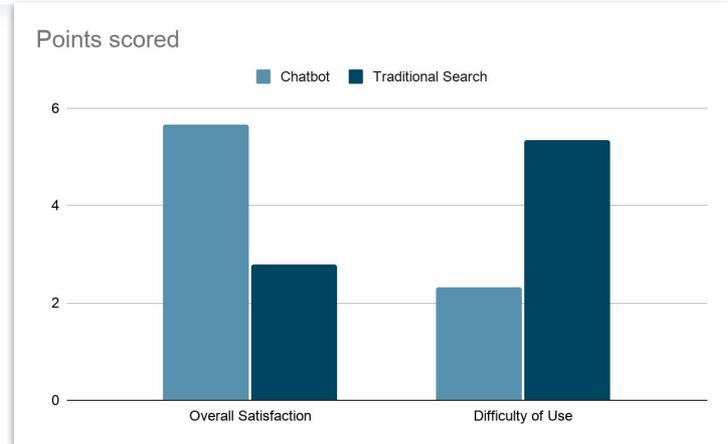
Finding the best roles both people and machines presents several critical questions for higher-education...

- AI as a Trainer / Tutor?
- AI as an Evaluator / Assessor?
- AI as a Support Role (Transactional, Emotional, Others)?
- AI as a Research Instrument?
- And beyond!

Study by Indiana University of 261 undergraduate students;

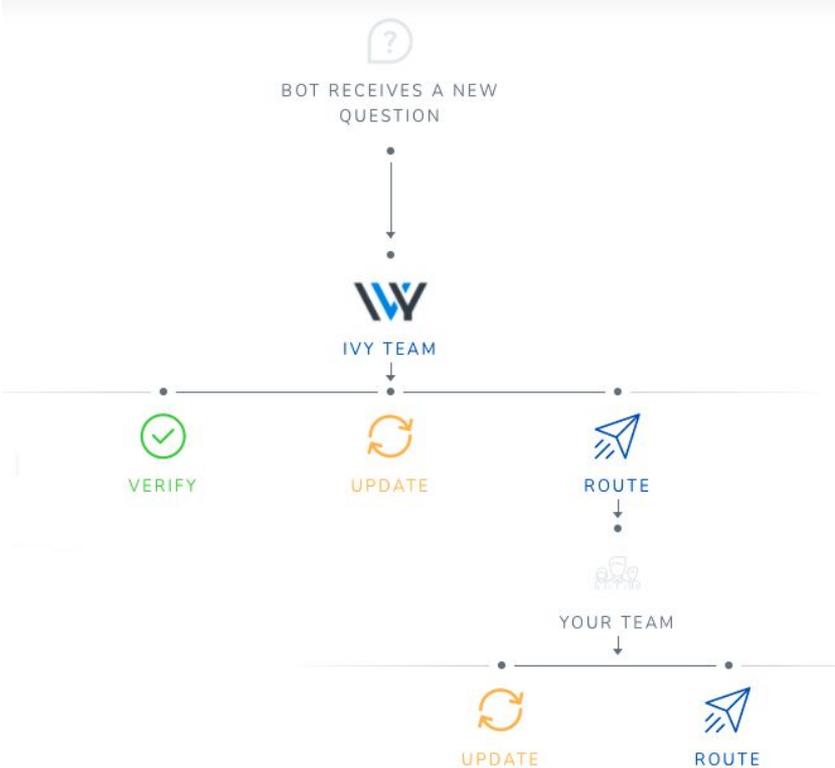
- AI had significant positive effect on satisfaction.
- Students are more likely to use a chatbot for self-help compared to traditional search methods.
- Students reported significantly lower perceived difficulty when using a chatbot to find answers to their questions.

Chatbot versus Search Engine. Kim, A, Sachdeva, A, Dennis, A. (2001).  
*Self-Service IT Support: Chatbot vs. Search Engine.*



## Answering Missed Questions

Creighton's team, bots and Ivy.ai works to correct questions that stumped your bot, and pass them to you when content updates are needed.



## How Your Bot Gets Knowledge

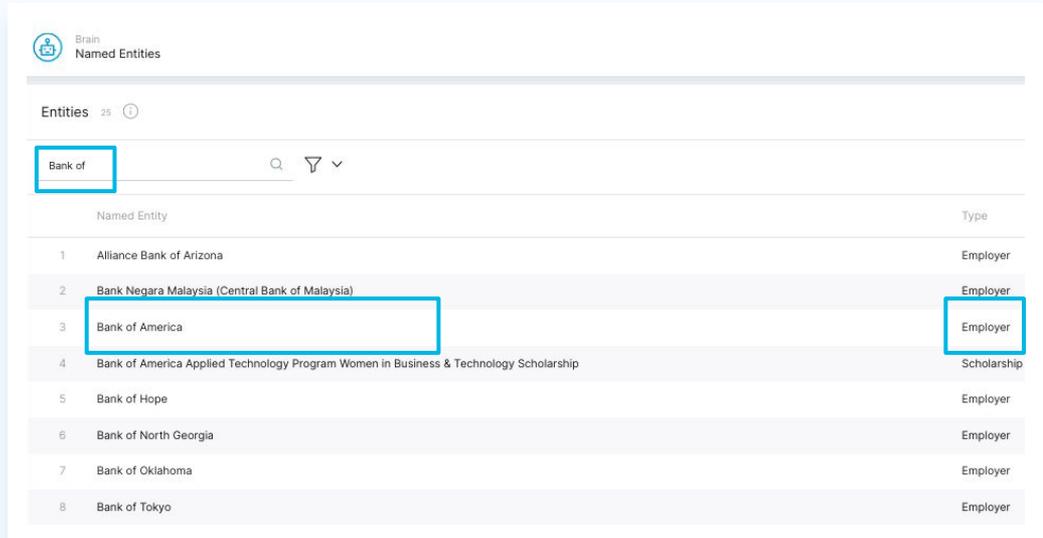
Ivy.ai chatbots connect to your unique data sources and never stop learning.

Crawl

External Sources

Training Data

Content Libraries



Brain  
Named Entities

Entities 25 ⓘ

Bank of 🔍 ⌵

	Named Entity	Type
1	Alliance Bank of Arizona	Employer
2	Bank Negara Malaysia (Central Bank of Malaysia)	Employer
3	Bank of America	Employer
4	Bank of America Applied Technology Program Women in Business & Technology Scholarship	Scholarship
5	Bank of Hope	Employer
6	Bank of North Georgia	Employer
7	Bank of Oklahoma	Employer
8	Bank of Tokyo	Employer

## Recognize Names and Places

Go beyond support with generic information and provide active assistance location people, places, and employers, and more

“One of Weber’s most eye-opening insights was the fact that students were referring to tuition deposits as down payments, which allowed the university to adapt its language on the website so it resonated with students. Another added benefit was the bot’s ability to run almost autonomously and do a lot of the legwork to ease the burden off Weber’s plate.

Karla Weber  
Communications Manager



**WISCONSIN**  
UNIVERSITY OF WISCONSIN-MADISON

## Deeper Insights

Understand which topics matter the most to your users, when they need support, and which channels they prefer to leverage.

How-To 28	Tuition 22	Fall-Semester 11	Balance 7
Pay 19	Bill 27	Unable-To 14	Set-Up 8
How-To-Find 11	Cost 11	Account 15	Class 9
Insurance 7	Student 8	Contact 9	Waiver 10
Health 5	Parent 8	Fee 8	Access 8

Chat ID	Channel	Messages To Bot
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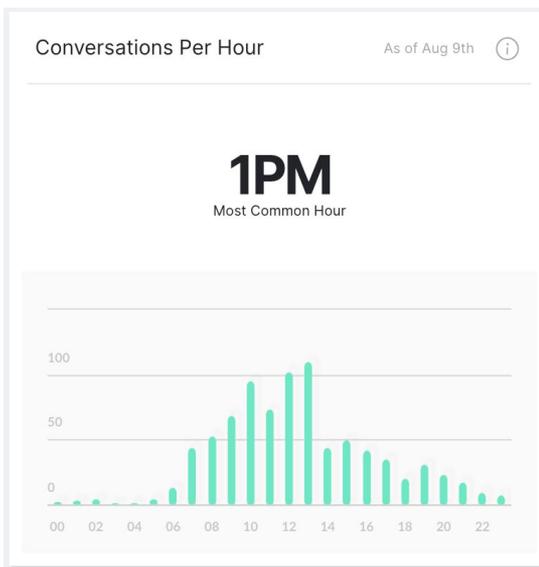
7502557	Web	1
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7501879	Web	1
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7500744	SMS	0
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7500743	SMS	0
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- **Yale Career Services**  
Originally built website to flow around Undergraduate and Graduate students. Following deployment, topics data revealed that students did not search for resources based on their student status. Updated web design to match student behavior.
- **San Diego Mesa College**  
Leveraged topics data to build custom experiences for various entry points throughout their websites.
- **San Diego State University**  
Adjusted service hours for their call center to more accurately align with student behavior as reflected by peak use of their chatbot for support.

# Transferring to Live Agent: Options

### Jay Bot

What can I do to help? You can select an option below or ask me a question.

We also have live-agents available to assist. Click the 'chat with live agent' button below to chat with a myIT staff member.

Please Select:

- Chat with Live Agent
- Reset Password
- Connecting to wifi
- Contact the help desk
- Hardware issues
- Submit a ticket

### SoonerBot

Hi! I'm SoonerBot.

I'm an artificial intelligence robot, programmed to help you answer questions about Admissions and Recruitment at OU.

If I am unable to answer your question, just type "human" and if someone is available they'd love to help.

How can I help you?

### BlasterBot

Hi I'm BlasterBot! I am a virtual assistant here to answer any questions you may have about the enrollment process. I operate best when asked short, direct questions.

xxx

Please select

- Admissions
- Grad Admissions
- Registrar
- Bursar
- Financial Aid
- Online Services
- Mines Climbs Together

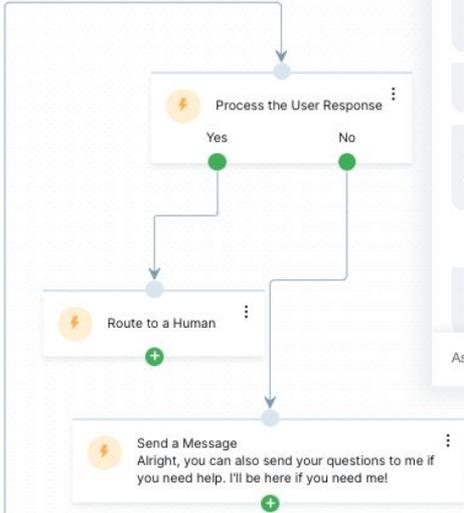
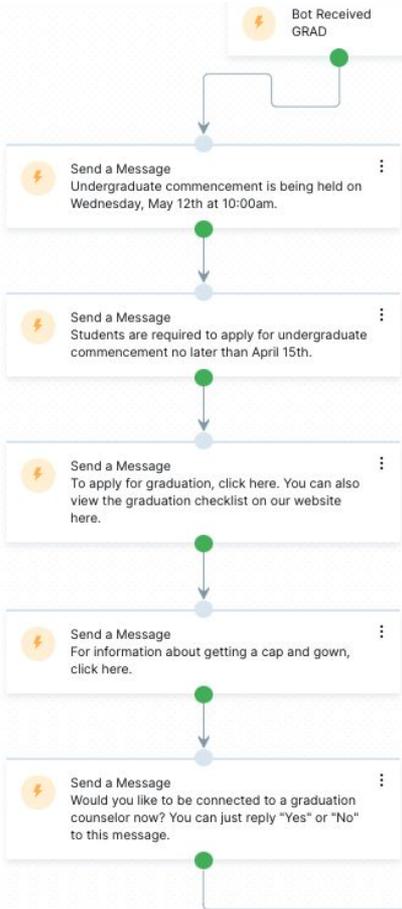
Please select

Cancel Submit

Ask me a question en

Ask me a question en

Text "GRAD" to 55555 for important commencement details



Ivy

GRAD

Undergraduate commencement is being held on Wednesday, May 12th at 10:00am.

Students are required to apply for undergraduate commencement no later than April 15th.

To apply for graduation, click here. You can also view the graduation checklist on our website here.

For information about getting a cap and gown, click here.

Would you like to be connected to a graduation counselor now? You can just reply "Yes" or "No" to this message.

No

Alright, you can also send your questions to me if you need help. I'll be here if you need me!

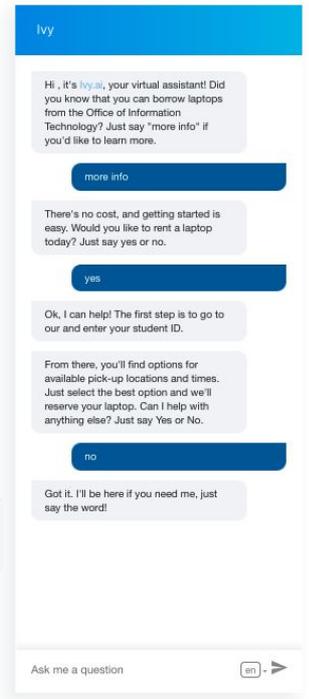
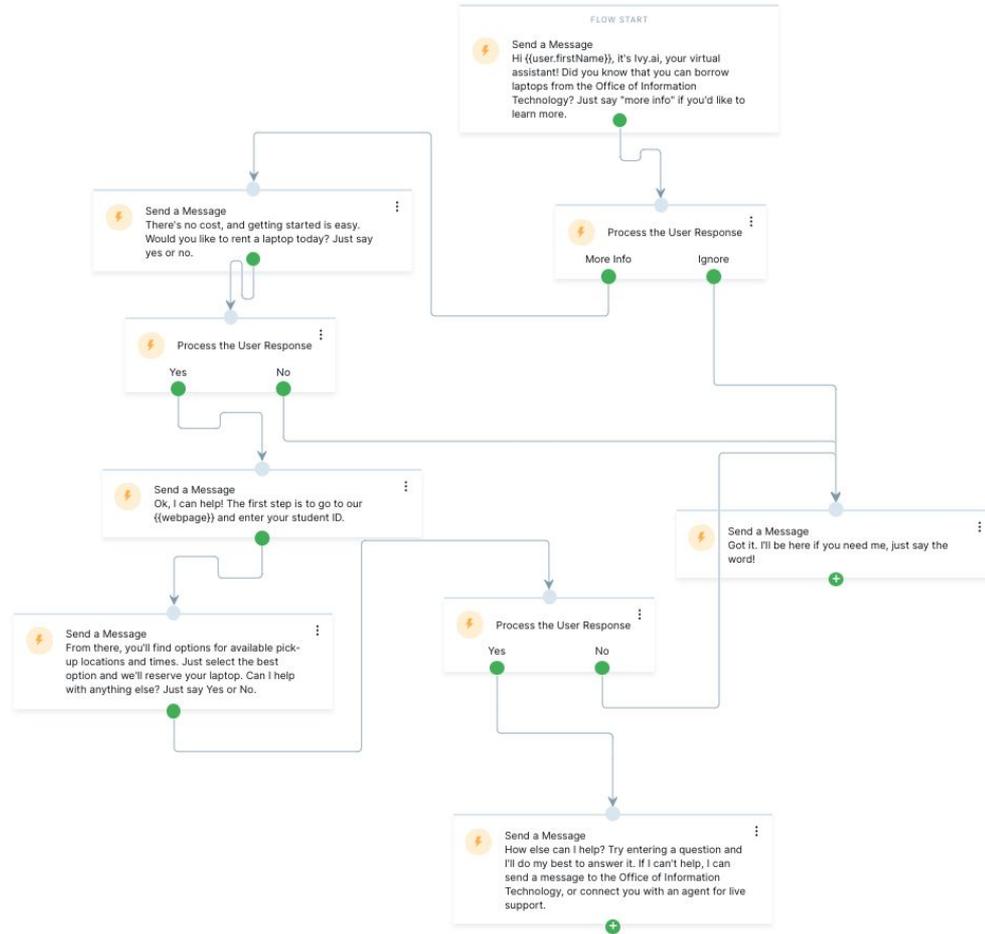
Ask me a question [en] ->

## Help as Easy as Sending a Text

Create simple shortcodes to connect students with thoughtful help in an instant

## Timely, Proactive Guidance

Nudge students to action with reminders and helpful tips



Ivy

Hi, it's Ivy.ai, your virtual assistant! Did you know that you can borrow laptops from the Office of Information Technology? Just say "more info" if you'd like to learn more.

more info

There's no cost, and getting started is easy. Would you like to rent a laptop today? Just say yes or no.

yes

Ok, I can help! The first step is to go to our and enter your student ID.

From there, you'll find options for available pick-up locations and times. Just select the best option and we'll reserve your laptop. Can I help with anything else? Just say Yes or No.

no

Got it. I'll be here if you need me, just say the word!

Ask me a question  en →

# Product Roadmap

New!

In Development

Being Planned

## Email Center

Streamline your inbox and allow your bot to answer incoming emails, suggest responses, and assign ownership.

## Settings Update

Enjoy more intuitive organization and display of settings, plus new settings search feature.

## Improved AI

Our new deep-learning model processes human language 20x faster and supports unlimited label sets and training data without impacting performance.

## Zoom Integration

Allow students to transition seamlessly from Live Chat to video conferencing via zoom.

## IVR

Allow your bot to triage incoming calls, answering questions over voice response to save more time.

## New Reports / Data Visualization

Gain a deeper understanding of your bot's productivity, your Inbox Zero activity, and changes logged with enhanced reporting options.

## Faster, More Intuitive Builds

Our 1-Click Implementation tool will enable us to build smarter bots even faster.

## More Reporting Enhancements

Receive more insight into implementation success, Live Chats, and bot performance at the enterprise level.

## Updates to Ontologies

Easily inherit content from existing deployments to improve bot knowledge with lightning speed.