



McWilliams School of
Biomedical Informatics

Impactful AI Innovations for Health Transformation

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A decorative orange banner at the bottom of the slide. It features a white heartbeat line on the left and right sides. The background is filled with faint, glowing patterns of binary code (0s and 1s) and a network of interconnected nodes and lines, suggesting data and technology.

TRANSFORMING DATA TO POWER HUMAN HEALTH™



**Fax
Automation**



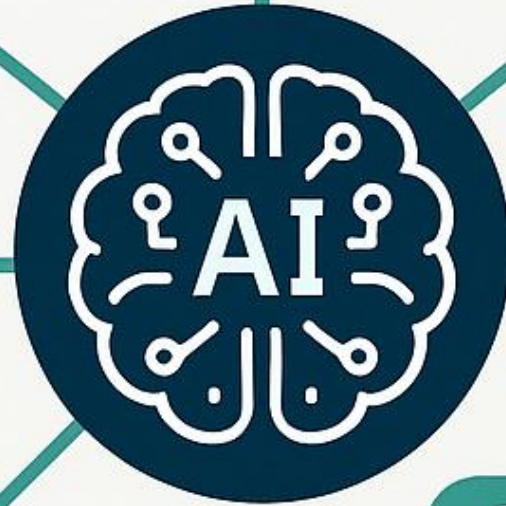
Translation



Robotics

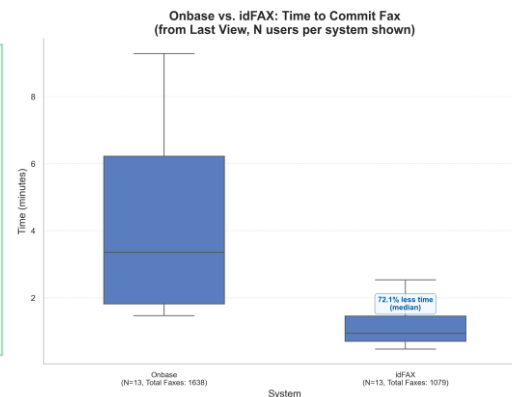


Onboarding



iDFax Impact Visualization

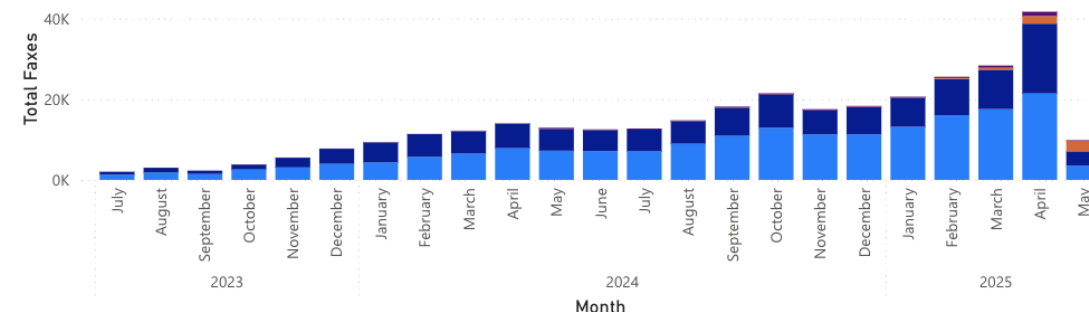
- Faxes are a dead-end, unless moved into other digital systems (EHR, etc.)
- Current reality: (1) greater volumes; (2) workforce constraints; (3) low margin business, with low growth potential
- Our solution facilitates Fax processing with AI technology



dept	faxline	Faxes
	9973817	65
	8687046	6029
	7699942	404
	7699941	1987
	7419440	3244
	6922500	649
	6662998	726
	6641272	2536
	5749447	177
	5740560	13
	5740138	297
	5127146	941
	5127118	73
	5122239	42557
Total		325871

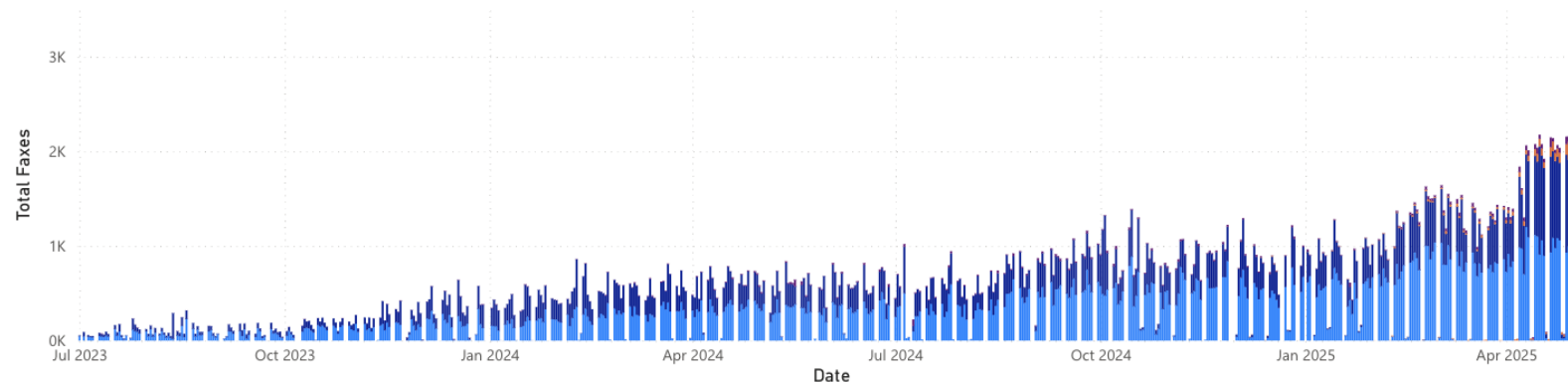
Total Faxes by Year, Month and Action

Action ● Committed ● Deleted ● Inbox ● Reroute



Total Faxes by Date and Action

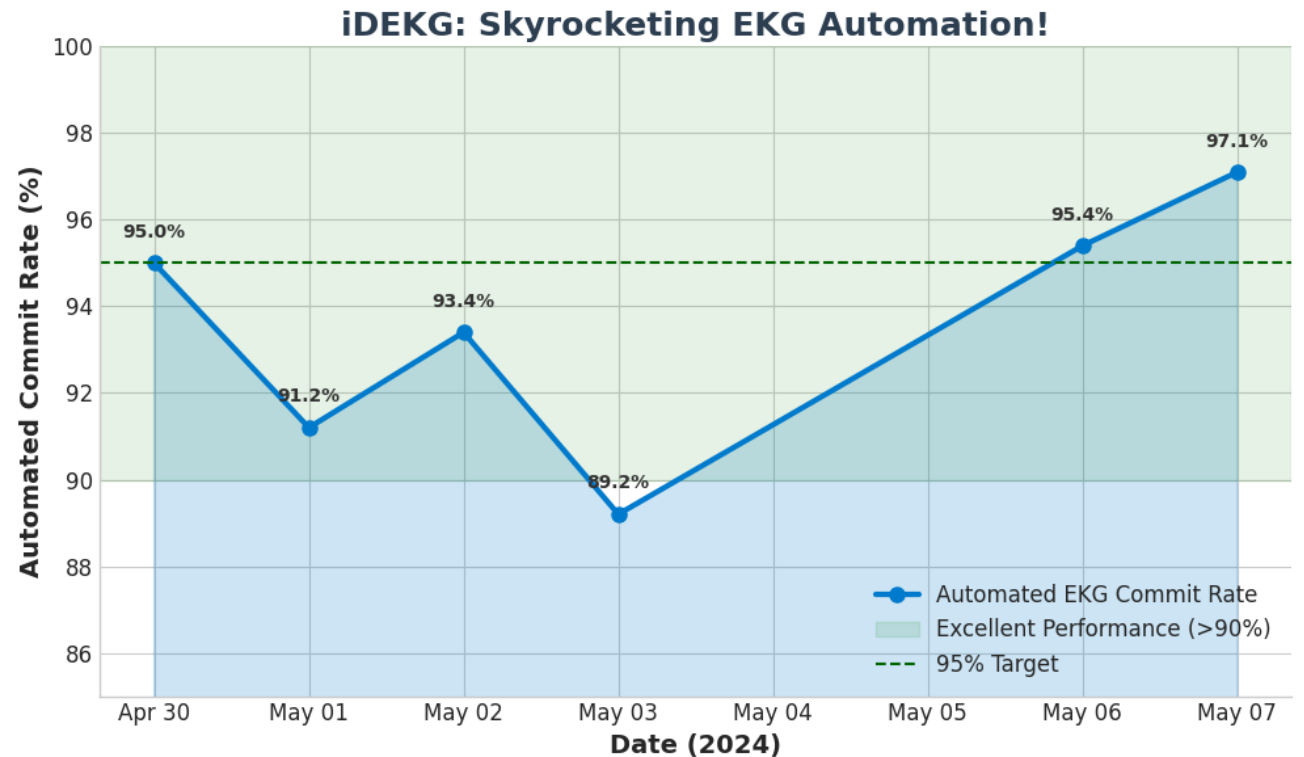
Action ● Committed ● Deleted ● Inbox ● Reroute



Thanks, Martin Citardi and Omer Anjum, for the text and data

AI-Driven EKG Automation

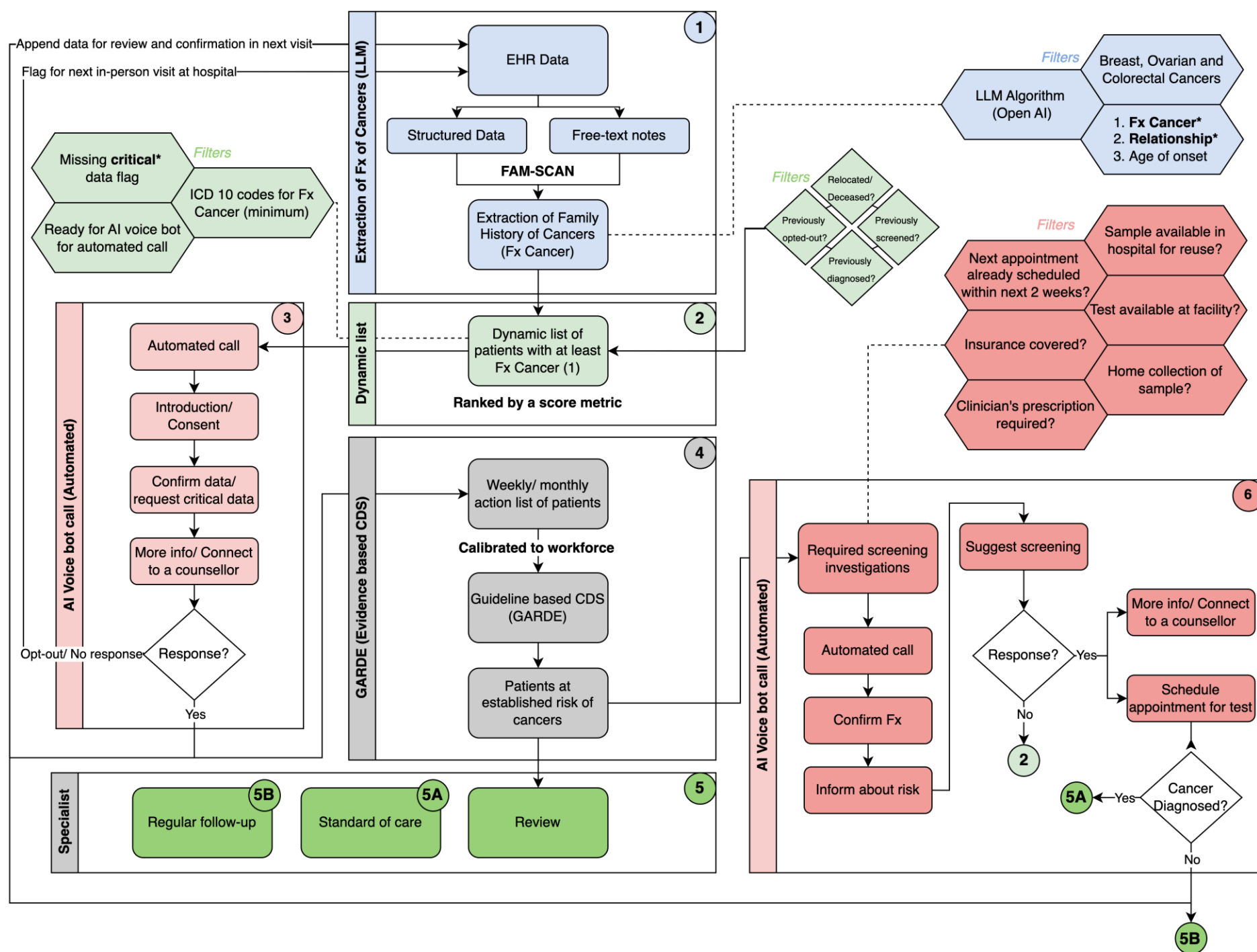
- 95%+ of EKG faxes automated with zero human clicks.
- 5,938 EKGs committed digitally since March 16.
- Significant hours saved in processing time.



Thanks, Sonia Ahsan & Omer Anjum, for the data

FAM-SCAN

- Find high risk patients who are qualified for insurance covered genetic testing
- Automated screening found 81.8% high-risk cases (422/516) vs. 44.4% (229/516) before.
- In the non-counseled group, 38.6% (193/500) identified after screening vs. 16.8% (84/500) before.

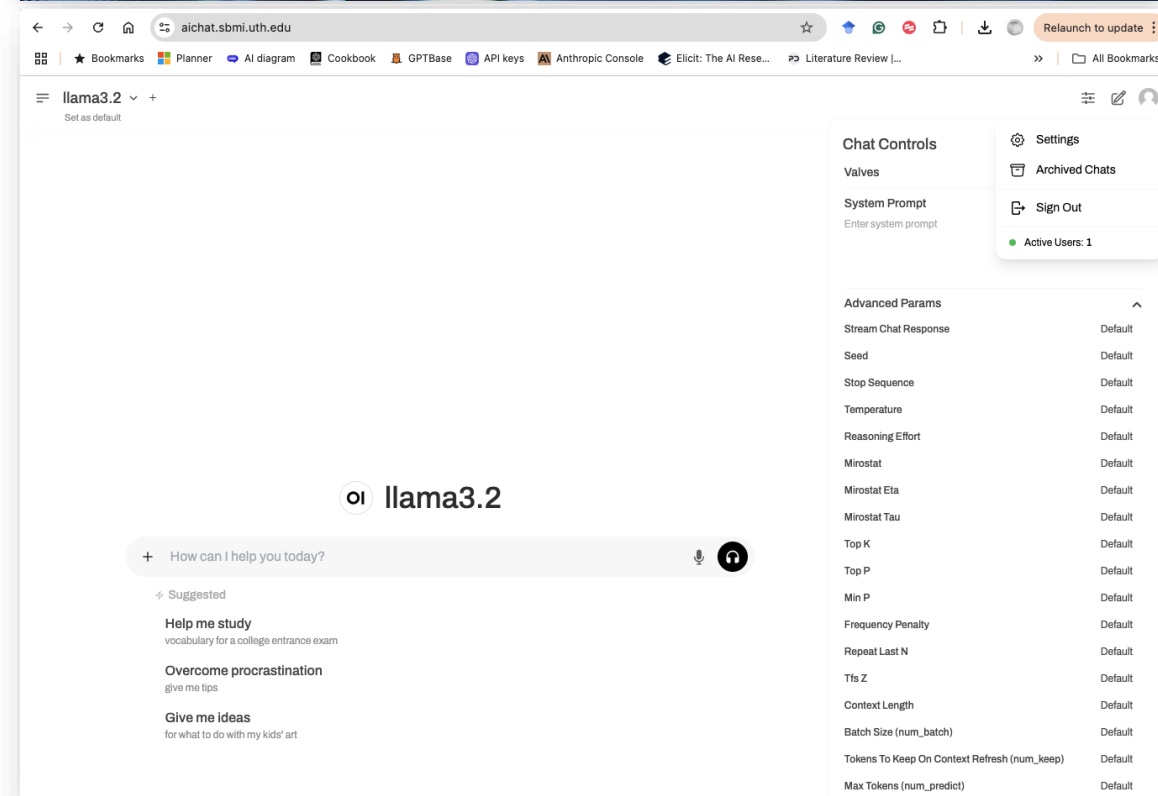


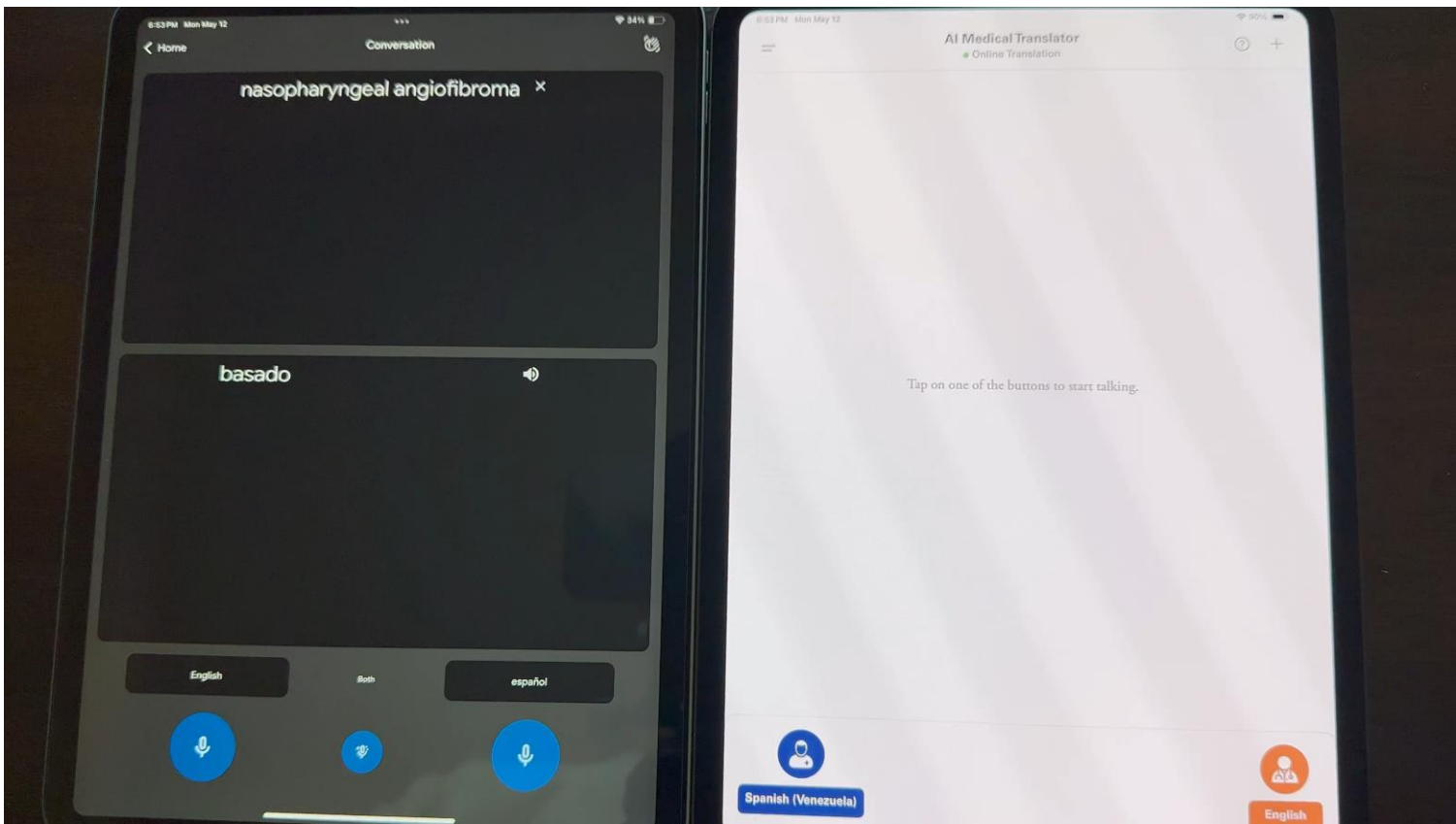
AIChat: A Secure GPT Service

<https://aichat.sbmi.uth.edu/>

- Secure, ChatGPT-style interface powered by local LLMs, free to MSBMI students.
- Open-WebUI frontend with Microsoft SSO integration.
- Requests are routed through OneHub to local Ollama servers on Kubernetes.
- HIPAA-compliant: no third-party data storage or model usage.
- Customizable, auditable, and fully internal.

Thanks, Alex Cantrell, for the content





LingualAI: Breaking Language Barriers

16
Languages

92
Dialects



AI-Powered Medical Translation

Integration of LingualAI for multi-language support.

Thanks, Carlos Garcia and Cecilia Wang, for the design

AI Powered No-Show Prediction

	No Show Rate (Excluding Late Cancels)							
Clinics	Aug 24	Sep 24	Oct 24	Nov 24	Dec 24	Jan	Feb	Mar
EDN-UT PHYSICIANS MULTISPECIALTY-JENSEN	19%	18%	18%	21%	13%	15%	14%	11%
EDN-UT PHYSICIANS MULTISPECIALTY-INTERNATIONAL DISTRICT	18%	18%	16%	13%	12%	12%	9%	10%
EDN-UT PHYSICIANS MULTISPECIALTY-ROSENBERG	12%	12%	13%	11%	12%	11%	10%	10%
EDN-UT PHYSICIANS MULTISPECIALTY-SIENNA	17%	18%	16%	14%	16%	13%	11%	13%
EDN-UT PHYSICIANS FAMILY MEDICINE-TEXAS MEDICAL CENTER	16%	13%	15%	14%	15%	16%	15%	15%
EDN-UT PHYSICIANS MULTISPECIALTY - GREENS	25%	24%	22%	24%	23%	20%	14%	11%
EDN-UT PHYSICIANS MULTISPECIALTY-CINCO RANCH	11%	10%	10%	11%	11%	10%	10%	10%
EDN-UT PHYSICIANS MULTISPECIALTY-BAYSHORE	11%	10%	10%	11%	9%	9%	8%	9%
EDN-UT PHYSICIANS MULTISPECIALTY-BELLAIRE STATION	15%	14%	13%	13%	13%	12%	12%	13%

Cancel Reason:
No Show Predictive Model

Total: 1,673

No-Show Probability
greater than 70%

OUTCOMES

Cancel Reason:
No Show Predictive Model

Total: 1,673

OPEN SLOTS

No-Show Probability
greater than 70%

524

Open Slots Filled

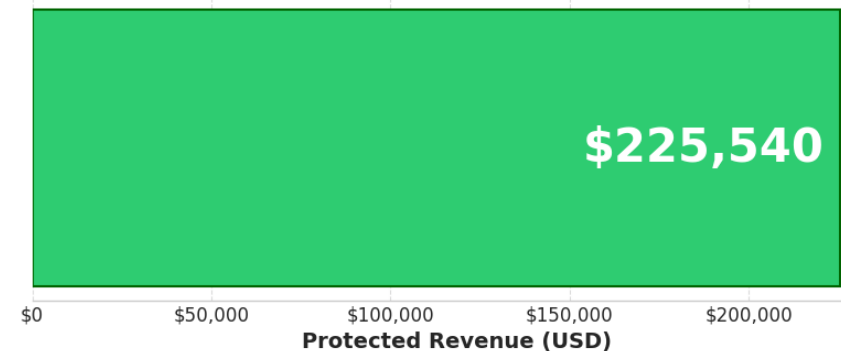
Rescheduling or canceling an appointment allows the reallocation of time to patients on the waiting list or those requiring timely care.

Appointment Status

Appointments	Appointment Status
466	Completed
58	No Show

Count	Scheduling Source
470	Cadence
30	Patient Mobile Application
9	Patient Open Scheduling (Internal)
9	Patient Web
4	FastPass (New Patient)
2	Fast Pass - SMS (New Patient)

No-Show Prediction: Shielding Revenue!



from 2,148 appointments
proactively managed

Thanks, Lishan Yu, Luyao Chen & Miguel Rodriguez, for the slide

AI-Assisted Patient Onboarding

- Multi-language support and real time system connection.
- Agentic system support with smart triaging and explanations.
- Enhanced speed and accuracy in onboarding processes.
- Reduction of manual work for staff.
- Improved patient experience.

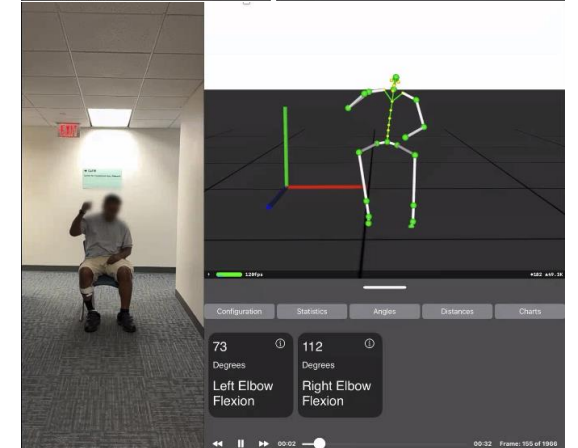


question	answer	remark
Have you or a family member ever had a problem with an anesthetic other than nausea?	yes	Uncle had malignant hyperthermia.
Have you ever or do you now smoke? How much and for how long?	no	
Do you have a cold, cough, or any breathing difficulty like sleep apnea?	no	
Do you have asthma? What induces it? When was your last episode?	uncertain	
Do you have high blood pressure? For how long?	yes	For two years.
Do you have a heart murmur or mitral valve prolapse?	yes	

ALBRETE SCORE
ACTIVITY: Moves all 4 Extremities = 2 Moves 2 Extremities = 1 Moves No Extremities = 0 TOTAL:
RESPIRATIONS: Able to Breathe / Cough Freely = 2 Chestsies or Limited = 1 Apnea = 0 TOTAL:
CIRCULATION: SBP > 20% Pre-Procedure = 2 SBP > 20-50% Pre-Procedure = 1 SBP > 50% Pre-Procedure = 0 TOTAL:

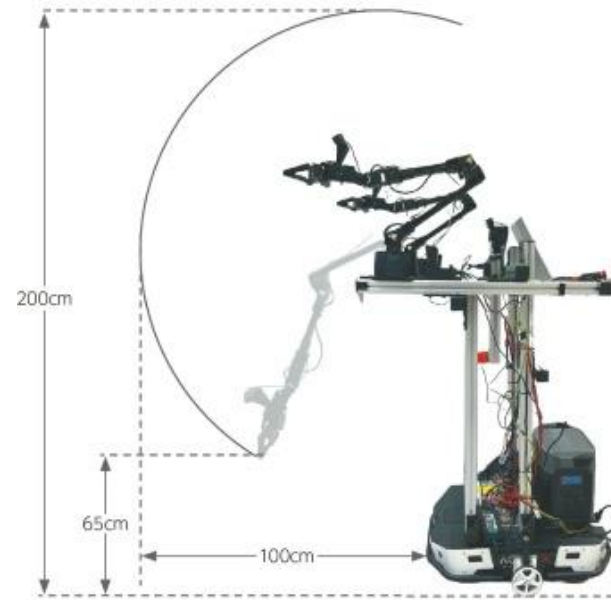
Clinical/Patient AI Innovations

- Real-time feedback in stroke rehabilitation.
- 3D motion analysis for biomarker assessment.
- Utilizing digital twins for better patient outcomes.



AI Infrastructure, GenAI/Robotics

- Building reactive autonomous systems to assist with aging in place
- Engineering infrastructure to train and deploy large vision-language-action models
- Researching environment representations to enable LLM task reasoning



AIHub: Empowering AI Resources & Collaboration at UTHealth

<https://aihub.uth.edu/>

Your Central Gateway to AI Resources, Research & Collaboration

AIHub is UTHealth Houston's centralized platform for all things AI — connecting researchers, students, and the broader community with the latest in Artificial Intelligence. It fosters discovery, collaboration, and innovation by consolidating AI initiatives, resources, and updates in one accessible location.

Key Features & Purpose

• Discovery & Project Management

- Web tools to explore AI centers & resources
- Collaboration opportunities across departments
- Model repository, AI news, Generative AI updates

•Streamlined Experience

- Intuitive navigation to research & tools
- Cross-disciplinary AI news highlights

•Public Accessibility

- Open to internal UTHealth users & the public
- Builds a connected AI community

Thanks, Dustan Brennan, Cecilia Wang, Jingyi Qi, Namees Albayati, for the slide

The image shows a blue background with a faint, glowing circuit board pattern. A dark orange rectangular box is positioned in the lower right area, containing the text "UTHealth Houston AI Hub" in white, bold, sans-serif font.

UTHealth Houston AI Hub

What's next?

UTHealth Houston
McGovern Medical School

UTHealth Houston
McWilliams School of
Biomedical Informatics

V.I.T.A.L.S.

Versatile Intelligent Telehealth & AI for Long-duration Spaceflight

PowerGPT

UTHealth Houston

AI Rehab iOS App

Empowering stroke rehabilitation through advanced AI and real-time motion analysis.



smartAssistant Bella

Your chat may be monitored and recorded for quality and other purposes. By using this chat, you agree to the recording and collection of your information. For information about our privacy practices, please review our [Privacy Policy](#).

Hi Bella, can you tell me how to make an appointment?

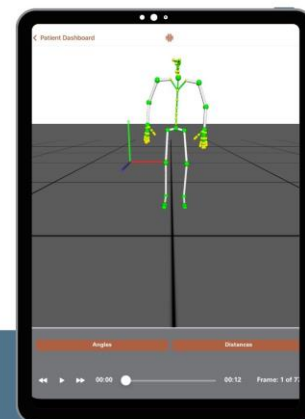
Yes! You can make an appointment in several ways:

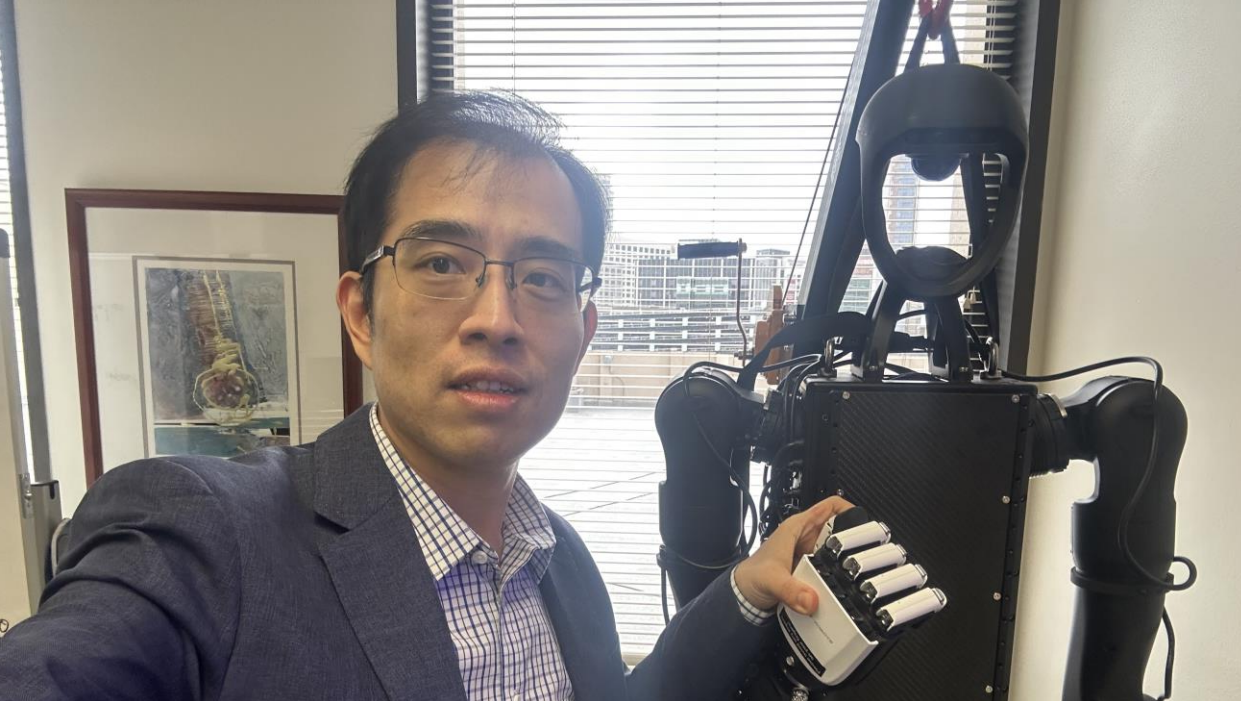
- Call us directly at 713-486-5019.
- Schedule online with Dr. Ho or Dr. Kao using our Epic scheduling widget.
- Book through MyChart (for new or current patients): [click here](#)
- Use our quick request form: [click here](#)

If you need help, please call 713-486-5019 or use our [contact form](#).

Ask a question

Any Questions?
Chat With Bella





Visit our posters:

AI Rehab: Intelligent Recovery and Rehabilitation Assistance

World State Models for Vision-Language-Action Models in Healthcare Robotics

IDREV: Intelligent Document System For Revenue Cycle



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Questions?

