Effortless Customer Care Utilizing AI and Human Understanding

Michael Johnston
Director of Research and Innovation
Human+AI
Human+AI

Humans assisting AI:

AI assisting humans:
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Humans assisting AI
Humans Assisting AI

Human annotation and labeling
• Critical for training AI (supervised machine learning)

Human post-editing
• Transcription
• Machine translation

Human-assisted Intelligent Virtual Assistants (IVA)
• *Synchronous* use of human intelligence in interactive systems
Intelligent Virtual Assistant

• Robust handling of conversational speech remains difficult
  – Background noise
  – Multiple speakers
  – Accent
• Intelligent Virtual Assistant (IVA)
  – Adaptive Understanding
  – Synchronous use of human-assist ensures performance
Human-assisted AI: Continuous learning loop

- Continual stream of data for training and improvement of AI models
- Capture what users want to say and do rather than what they need to do to make a system work
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AI assisting Humans
**AI assisting Humans**

- **Data analytics:**
  - Augment knowledge workers with ability to sift through and analyze large volumes of data

- **Assist human agents in engaging with customers:**
  - Example: Supporting Financial advisor with ‘next best action’ prediction
    - “Morgan Stanley’s 16,000 human brokers get algorithmic makeover”
  - Example: Augmenting customer care agents
    - Predictive intelligence: Likelihood to buy, Likelihood to cancel
    - Suggesting how to respond
    - *Making every agent as good as your best agent*
AI assisting Humans Example: Social Customer Care

• Social customer care agents:
  – Monitor social media
  – Respond to customers’ concerns and wishes
  – Identify selling opportunities
  – Respond to issues and problems

• Extremely labor intensive to search and engage with customers across multiple social channels
AI for Social

Find more relevant opportunities and expand reach of agent population

Social Data

Digital Roots
Artificial Intelligence Engine

ENGAGE

Find / Route Opportunities
Suggest Responses

INSIGHTS

Consumer Insights
Competitor Benchmarking

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AI Assisting Social Care Agent

Find/Route Relevant Opportunities

Domain: Hospitality  
Queue/Intent: Assistance  
Location: Chattanooga, TN  
Brand: Choice Hotel, Comfort Inn  
Topics: Booking  
Sentiment: Negative

Suggest Responses

Post

@TravelingBoyd we are truly sorry to hear about this can you please follow and DM us with your hotel confirmation number and contact email?

@TravelingBoyd our apologies. please follow and DM with full name and location on booking to receive further assistance. thank you.

@TravelingBoyd we have located your information and contacted the hotel on your behalf. management will be reaching out to you shortly.
AI Suggesting Responses to Human Agent

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Deep Learning for Agent Response Generation

- Sequence-to-sequence model with attention
- Trained on corpus of human-human chat
- Care agent can accept, edit, or reject suggested responses
### AI assisting Social Care Agent

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<tr>
<th>Metric</th>
<th>Value</th>
<th>Description</th>
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<tbody>
<tr>
<td>75%</td>
<td>MORE RELEVANT CONTENT IDENTIFIED</td>
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<tr>
<td>1/4</td>
<td>THE STAFF REQUIRED TO MODERATE AND ENGAGE IN SOCIAL CHANNELS</td>
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<tr>
<td>35%</td>
<td>INCREASE IN AVG. SPEED OF RESPONSE</td>
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[Comparison to keyword search based interface]

- **Key insights:**
  - In social channels it is critical for responses to not appear too robotic
  - Deep learning models provide ability to learn a broad range of responses closely tailored and reflective of the customers request
  - Excellent fit for end-to-end dialog modeling
    - Human care agent approves responses
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Customer Journey
Customer Journey: Persistence of AI

Customer calls IVA

Live agent assists customer

Customer calls IVA

IVA

AI

Shared context

Predictive Models

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- Omnichannel
- Live channel switch
Thank you!

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