

## Augmented Reality Scientific Posters

### Quick Guide

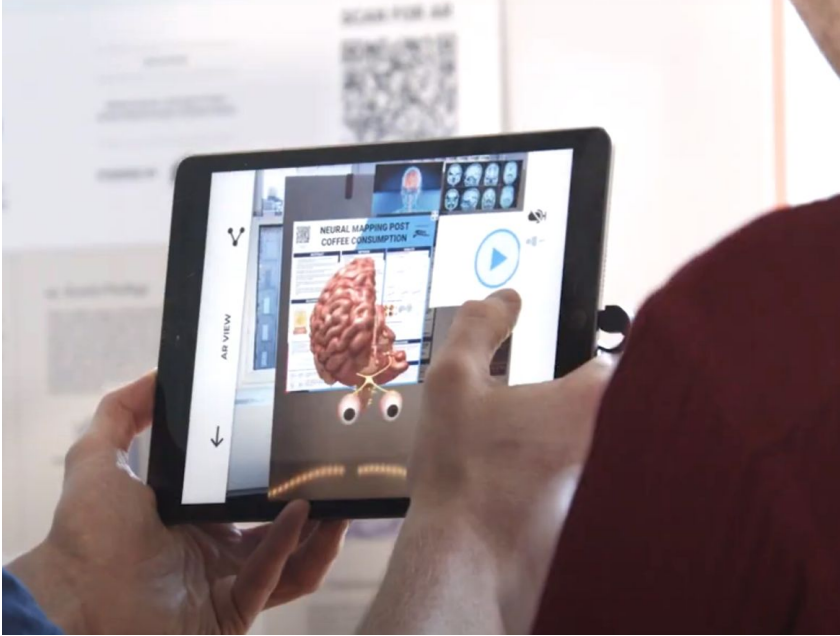
May 2022

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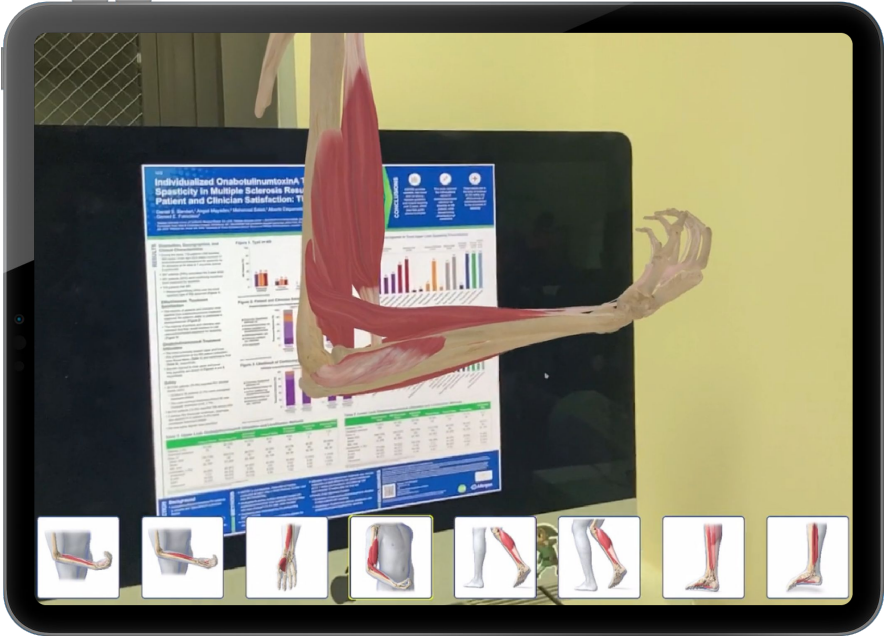
## Our Mission

Provide a cost-effective SaaS platform that enables businesses and organizations to quickly create and deploy Augmented Reality (AR) experiences, improving audience engagement and conversions.

# Post Reality Solutions



AR Presentation SaaS Platform



Custom Enterprise

# The Scientific Poster Market

## Dreaded “Wall of Words”

### METHODOLOGY

The algorithm proposed in this paper was mainly based on a 3D convolutional neural network with the dual scale from two paths. The overall scheme of the algorithm was as follows:

1. Filtered and normalized the original CT images;
2. Segmented the 3D CT images into several sub-image blocks, which were used as the input of TDP-CNN. The architecture of TDP-CNN was shown in Fig. 2. There were two paths in the TDP-CNN, and each path was composed of eight blocks, and all the blocks had the same architecture, which included one convolutional layer, one batch normalization layer, and one activation layer. The feature maps of two paths were fused, and input into the fully connected layer, and then classified in the softmax layer.
3. The trained TDP-CNN was used to segment the liver and liver tumor, and generate probability maps of the segmentation results;

### RESULTS/FINDINGS

In the experiment, we used the public dataset liver tumor segmentation (LITS) to analyze the segmentation results qualitatively and quantitatively. Ground truth segmentation of liver and liver tumor was manually labeled by an experienced radiologist. Quantitative metrics were Dice, Hausdorff distance, and average distance. For the segmentation results of liver tumor, Dice was 0.689, Hausdorff distance was 7.69, and the average distance was 1.07; for the segmentation results of the liver, Dice was 0.965, Hausdorff distance was 29.162, and the average distance was 0.197. Compared with other liver and liver tumor segmentation algorithms in Medical Image Computing and Intervention (MICCAI) 2017 competition, our method of liver segmentation ranked first, and liver tumor segmentation ranked second.

### CONCLUSION

This paper proposed a TDP-CNN architecture based on deep learning, which can be used to segment liver and liver tumor from the 3D abdominal CT images. The special design for 3D medical image data can make TDP-CNN balance the segmentation performance and the requirement of computational resources. Compared with other liver and liver tumor segmentation algorithms, our method directly used 3D image data in the whole TDP-CNN architecture, instead of 2.5D image data or small 3D network. Experiments showed that our method had Dice value 0.965 for liver segmentation and Dice value 0.689 for liver tumor segmentation. These quantitative metrics indicate that our method can accurately segment liver and liver tumor from 3D abdominal CT images.

## Pain Points

- Information overload, main ideas get lost
- Poor dissemination
- Limited interaction between creators and viewers
- Not collaborative
- No post-conference life
- No data insights

## Solutions

- Main ideas emphasized and remembered
- Everyone can access posters anywhere at anytime
- Email, in-app messaging and voice
- Interaction possible with others, voice chat during and after conference
- Posters saved so review and communication can continue
- Analytics provide valuable insights



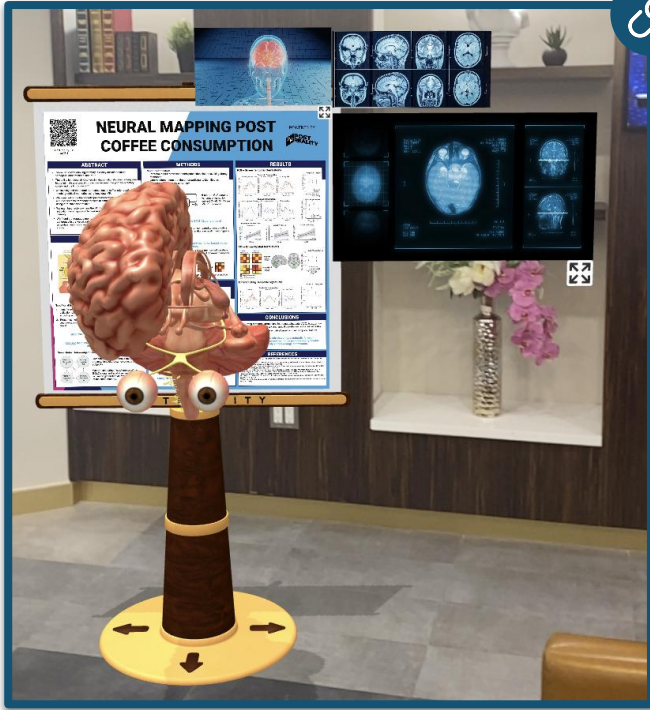
## Key Findings

- 84% of delegates presented work in poster format
- Their value is undermined by their limited ability to disseminate information and facilitate networking
- User Insight: “too many posters, too little time”

## Users Want

- 56.7%: Better organization of poster sessions
- 67.6%: Publication of posters... in an online repository / journal
- 45.9%: Wider exposure to conference delegates
- 40.5%: Increased exposure post-conference

Place presentations in any physical space



Access to the physical poster is not required, increasing post-conference engagement.

## Post Reality Scientific Poster Suite

Create and view engaging posters.

Post Reality allows the presenter to transform complex scientific posters into engaging and memorable experiences with multimedia, such as images, audio, videos, 3D models and links.

The Platform Consists of:

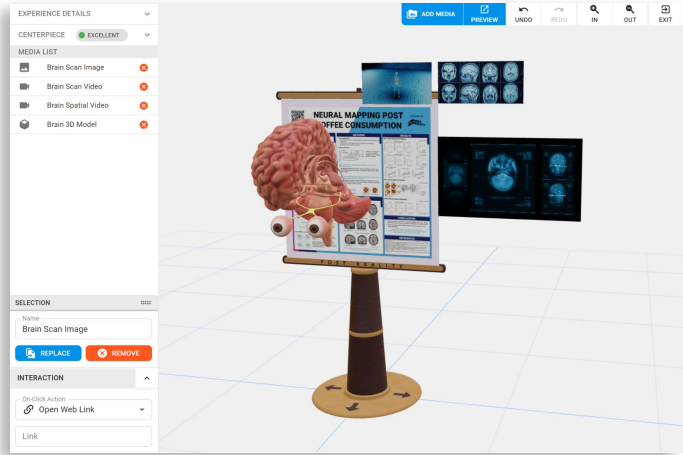


Online Studio



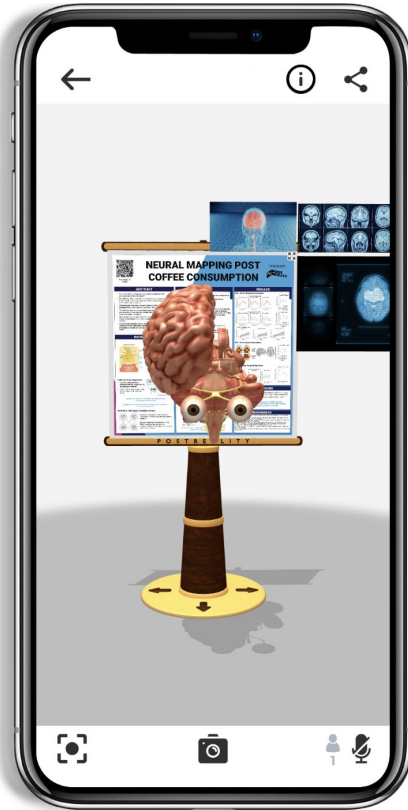
Mobile Viewer

## DIY Online Studio



- Enhance presentations with 3D models, photos, videos, links to important papers
- Invite users to join your account
- Manage teams and conferences
- Moderate experiences
- View analytics

## Viewer App



*View a poster with your phone or tablet and see it jump to life.*

- Relevant media that tell the full story
- Physically move around to view models from different perspectives
- Engage with the creator or other viewers through voice or text
- Save all your posters for later viewing
- Use analytics to better understand your audience

# Try It Out!

See how Post Realty transforms a dense poster into an engaging and memorable experience.

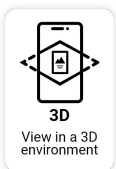
## To See This Presentation In Your Room:

Scan to download the free Post Realty App.



In the app, scan the QR code to activate this presentation.

Choose between:



PostRealty ID  
002U

# NEURAL MAPPING POST COFFEE CONSUMPTION

POWERED BY



### ABSTRACT

- Odor-cued coffee drinking memory is widely acclaimed for its perceptual and emotional nature<sup>1</sup>.
- The ability to induce vivid coffee drinking emotional states is likely due to the intimate anatomical connection between the primary olfactory cortex and the limbic system<sup>2</sup>.
- We investigated the neural representations of coffee odor-cued autobiographical memories using functional MRI.
- We identified odors that 4 participants associated with vivid memories and assessed the temporal and spatial coherence of these memories using intra-subject correlation.
- We examined regions where the BOLD signal and spatial pattern of activation were highly stable over multiple retrievals of the same memory.
- We found that repeated memory retrievals produced strong temporal coherence in the visual cortex, paracingulate gyrus, hippocampus, amygdala, and insula, and strong spatial coherence in the visual cortex.

### BACKGROUND

**Traditional Memory Approaches**

- Look for overlap between activation patterns present during encoding and retrieval<sup>3</sup>.
- Present stimuli over several trials and average signal over these trials<sup>4</sup>.

*Do not have access to the original encoding phase of autobiographical memories.*

*Must limit the number of retrievals to protect the authenticity of the retrieval experience.*

**Novel Metric: Intra-subject Correlation Analysis**

Compares responses across repeated presentations of the same stimulus within a subject<sup>5</sup>.

We are comparing the coherence of the BOLD signal and spatial pattern of activation generated via repeated retrievals of the same memory.

### METHODS

**Odor Identification**  
Personal odors: odors that participants identified as evoking strong memories.  
Control odors: odors that the other participants identified as personal, did not evoke a memory.

**Scanner Protocol**

**Aim 1. Quantify the TEMPORAL and SPATIAL coherence of olfactory memories.**  
*hypothesis:* Olfactory memories, when compared to control odors, will be characterized by stronger correlations extending into higher-level regions.

**Aim 2. Differentiate individual olfactory memories based on their TEMPORAL and/or SPATIAL signatures.**  
*hypothesis:* Repeated retrievals of the same memory will produce highly correlated patterns, while comparisons of different memories will produce less correlated activity.

Representative Representation

### RESULTS

**Whole Brain Temporal Correlation Maps**

**RO1 - Driven Temporal Correlations**

**RO1 - Driven Spatial Correlations**

**Differentiating Temporal Signatures**

### CONCLUSIONS

- Strong temporal correlations in the paracingulate, ACC, hippocampus, amygdala, and visual cortex and spatial correlations in the visual cortex.
- Memories appear differentiable based on their temporal, but not spatial signatures.

Novel metric reveals that unique, naturally formed autobiographical olfactory memories produce highly reliable neural activity across a range of networks.

### REFERENCES

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- 3) Anderson, A. K. et al. The functional organization of odor-evoked autobiographical memories coded by odors and words. *Neuroimaging* 41, 152-161 (2007).
- 4) Gauthier, J. & Carlini, M. Mechanisms of odor object perception. *Acta Otol. Neurotol.* 15, 828-841 (2015).
- 5) Anderson, A. K., Skowron, L., Corbetta, M., Woldorff, D. & Haxby, J. V. The Representation and Retrieval of Olfactory Memories. *Neuroimaging* 46, 258-267 (2017).
- 6) Wang, J., Skowron, L., Haxby, J. V. & Anderson, A. K. Dissociability of neural activity during retrieval of odors. *Neuroimaging* 48, 115-120 (2017).





Corporate

XR Digital Content



Corporate & Academic

AR Activation  
SaaS Platforms



Architecture, Engineering & Construction

Augmented Reality  
Software and Services



Financial Services

Data Visualization, Analysis,  
Presentation & Collaboration  
for VR/AR



GLIMPSE TURKEY

3D Model Creation

Large Scale  
Photogrammetry  
Production



Corporate & Universities

Corporate Training  
and E-learning



PAGONI VR

Media & Entertainment

Realtime and On-Demand  
VR Broadcasting



XR Training

Intensive XR  
Bootcamps



Therapy & Support

Social VR Experiences  
& Environments



QReal

Brands, Agencies  
& Retail

Lifelike 3D models  
& AR Experiences



Education

VR/AR for the K-12  
education market



Healthcare &  
Nurses Training  
VR/AR for Medical  
Professional Training

We work with our sister companies to deliver multi-disciplinary projects when required

# Thank You



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# Select Post Reality and Glimpse Group Customers in Life Sciences and Academia



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Treatment  
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