

A Collaborative Approach to AI Research:

Designing AI for Hepatocellular Carcinoma (HCC)

Medicine provides a distinct case study for data science applications, especially in diagnostic imaging, where time and patient outcomes are critical. In this lecture, "A Collaborative Approach to AI Research," Dr. Sunil Jeph, Head of Computer Vision Research at Penn State Clinical Radiology Research Group, and Penn State-founded AI Consultant, OpenVessel LLC, discuss their collaborative approach to building an automatic, hepatic segmentation model, and the outcomes of applying AI to medicine.



Dr. Sunil Jeph

Clinical Problem

Addressing liver cancer through AI technology. Primary liver cancer is the second most common cause of cancer death. AI research helps clinicians evaluate the efficacy of clinical AI tools. Overall, AI can expedite patient care and help plan and monitor treatment.

Client Ask

Engineer a model that can detect and classify hepatocellular carcinoma (HCC), thereby continuing Dr. Jeph's research on segmentation/data modeling. Apply data model in research and collaboratively publish results.

What OpenVessel Provided

A deep learning model trained for liver cancer, and thorough understanding and involvement in the engineering process.

Scope of Work

- Train model with open-access liver CTs
- Record results
- Create abstracts
- Utilize model in publications, promoting PSU College of Medicine

About Us

OpenVessel LLC is an AI research consultant.

OpenVessel provides data science consulting and solutions to academic physicians to power their AI research.

Services

OpenVessel provides every tool necessary for research groups to succeed at AI/ML in healthcare. We:

- Collaboratively **engineer AI / ML solutions** with investigators
- Collaboratively **design experiments**, and oversee the entire experiment process
- **Co-author impactful research** and successful funding applications
- Establish a foundation of data-science research upon which **our clients can build their success**

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