Discussion of User Interface Software & Technology

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SensiCut: Material-Aware Laser Cutting Using Speckle Sensing and Deep Learning

- Laser cutters are valuable tools with significant downsides
  - Fire hazard
  - Material off-gassing
  - Material confusion
- Implemented material detection using speckle sensing for use in laser cutting
  - Cheap and easy to source components
  - Lowers barrier of entry and risk

SensiCut: Material-Aware Laser Cutting Using Speckle Sensing and Deep Learning

- Artifact contribution
- Areas of Inquiry
    - Human-Centered Computing
    - Machine Learning
    - Machine Vision
    - CHI: Blending Interaction
- Methods
    - Benchmarked users aptitude for material identification
    - Constructed prototypes and benchmarked them on various material to determine accuracy
    - Used transfer learning to create a Convolutional Neural Network to identify speckle profile

Discussion

- What are the things that you liked or disliked about this paper?

- What disciplines within and without HCI does this paper draw from?

Discussion

- Can you trust black-box software in potentially dangerous situations?

- Language in Papers - How did tonality and word use impact the paper?

- Ethical or moral issues with device interactions?

Screen Parsing: Towards Reverse Engineering of UI Models from Screenshots

- Jason Wu and Apple Inc.

- Proposed a UI screen parser based on ML technique that can analyze UI
  component hierarchy and group labeling from screenshots

- Main contribution

  - UI similarity search

  - Accessibility enhancement

  - Generating UI code to accelerate prototyping development

Screen Parsing: Towards Reverse Engineering of UI Models from Screenshots

- Artifact contribution
- Areas of Inquiry
  - Human-Centered Computing
    - Accessibility
    - User Interface
    - Human-Computer Interaction
  - Machine Learning
- Methods
  - Restated definition of screen parsing
  - Trained a UI Hierarchy prediction model with the data of extracted UI features from pre-trained model
  - Presented several example applications that show the versatility of the model

Discussion

- What are some main takeaways from this paper?

- What is your perspective on lack of metadata for accessibility?

- Symptoms not Causes: should programmers put more effort into being inclusive?

Thank you for listening!