Shuning Jiang

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Seeking entry-level software engineer position. Skilled in visualization, data analysis, deep learning, and full-stack development.

Education

- **The Ohio State University, Computer Science and Engineering** *08/2019 - current*
  - ◦ Research Assistant: Interactive Visual Computing Lab
  - ◦ Teaching Assistant: Data Visualization, Artificial Intelligence, Operating System, etc.
- **B.S., University of Electronic Science and Technology of China, Software Engineering** *09/2015 - 07/2019*
  - ◦ Thesis: Automatic Vehicle Detection and License Plate Recognition System

Selected Research Projects

- **Pathologists' gaze analysis** | *JavaScript, OpenSeadragon, Python, PyTorch* *09/2022 – current*
  - ◦ Developed a toolkit for tumor annotations and simultaneous track pathologists' eye movements.
  - ◦ Visualized pathologists' eye gaze data using seaborn and analyzed the gaze pattern.
  - ◦ Designed an algorithm that extracts pseudo ground truths from gaze data and demonstrated the feasibility of training neural networks using pseudo ground truth alone while maintaining comparable accuracy.
- **Quantifying image complexity** | *JavaScript, Node.js, PHP, MySQL, Python* *06/2023 – current*
  - ◦ Developed a full-stack online experiment platform using jsPsych and MySQL.
  - ◦ Calculated images' complexity scores using TrueSkill and Bradley-Terry algorithm.
  - ◦ Categorized the factors that make images complex such as shape/color diversity and clutters.
- **Brain imaging annotation toolkit** | *C++, Qt, OpenGL, OpenVR* *08/2019 – 02/2023*
  - ◦ Developed a toolkit on top of Vaa3D for evaluating participants' annotation speed and pattern in virtual reality or desktop environments.
- **Similarity-based pathology image retrieval** | *Python, TensorFlow, OpenSeadragon, D3.js* *08/2020 – 09/2021*
  - ◦ Benchmarked multiple image feature extraction algorithms and retrieved similar images in the database.
  - ◦ Developed a web application that allows users to select a custom area of a whole-slide-image and get recommendations of similar images.
- **Online vape shop scraping** | *Python, BeautifulSoup, Selenium, PyTorch, spaCy* *02/2021 – current*
  - ◦ Scraped online vape products using various tools and techniques, such as Selenium for structured HTML content, YOLO and OCR for images, and spaCy and LLM for unstructured textual information.
- **Graphical perception with CNNs** | *Python, Keras* *08/2019 – 02/2023*
  - ◦ Evaluated convolutional neural networks' performance on graphical perception tasks and compared it to human fairly. Quantified the effect of data sampling on CNNs' accuracy.
- **Automatic vehicles detection and recognition system** | *Python, OpenCV, Keras* *01/2019 – 04/2019*
  - ◦ Developed a system that uses convolutional neural networks to automatically detecting and re-identifying vehicles based on license plate, vehicle model, and color.

Skills

- **Programming Languages:** Python, C/C++/C#, JavaScript, HTML/CSS, R, Java
- **Framework/Tools:** Git, Linux, Unity, OpenGL, Qt, OpenCV, MySQL, Keras, TensorFlow, PyTorch