

Textron Systems: Web page and Code conversion

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Textron Systems

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Tracking faraway, small, and fast objects can be very complex and even sophisticated equipment cannot obtain a clear picture of the object. The effects of distortion as the image passes through the air can blur the image. Textron Systems on Maui is responsible for the tracking and surveillance of air and space objects. They use combinations of imaging algorithms, multi-frame blind deconvolution, and adaptive optics to compensate and get clear, higher quality images.

Currently there is no information on the Textron Systems website to describe their projects taking place in Hawaii. Textron employs 43,000 people and revenues around \$10 billion, with 33% of their employees outside of the US. This addition to the website can inform not only the public but, different divisions within Textron as well. The design must seamlessly fit into the existing structure of the Textron Systems website and the content must be concise, while keeping information as general as possible. All images and content will be approved for clearance before release to the public.

As a separate project, some of the existing imaging algorithms, written in Matlab, were converted into Python. . Matlab is a high-level computer language (produced by MathWorks), which is used for image processing and algorithmic development. Python, also a high-level computer language, is open source and has a variety of libraries available. While Python appears to have the capability to mimic the same functionality as Matlab, it contains additional libraries to take it beyond imaging algorithms. Since Python is open-source, there are no licensing fees and can be modified to suit Textron's specific needs.

Nathan Kimura just finished his Bachelor's Degree in computer science from Gonzaga University in Spokane, WA. He plans to work in the computer tech field on Maui and then possibly return to graduate school to pursue a Master's Degree in computer science. Nathan's computer interests include: networking, algorithms design and analysis, databases, operating systems, gaming systems, graphics.

