



Toyon Research Corporation

6800 Cortona Drive
Goleta, CA 93117
www.toyon.com

CAREER OPPORTUNITIES – Santa Barbara, CA

Software Engineer (Ref #1854-H)

Toyon is seeking individuals capable of developing object-oriented software in the C++ programming language. Experience deploying software on graphics processing units (GPU), digital signal processors (DSP), and CPU devices is of particular interest. Experience writing software for image and/or signal processing applications is desired, but not required. Experience working in a collaborative environment with configuration management and version control tools is a plus. Strong math skills which provide the ability to understand advanced image and signal processing algorithms is also a plus.

Candidates with a Bachelor's degree or higher in engineering, computer science, or a physical science are encouraged to apply.

Autonomous Systems (AS) Team

Autonomous Systems team designs, develops, and tests advanced multi-platform mission control algorithms to support complex autonomous military missions. To accomplish the task requires the complex coordination of multiple algorithms to achieve the effects of an artificial intelligence system.

To achieve this goal the AS team works in three interrelated technical areas:

- **Data Fusion:** The problems of interest are multi-sensor and multi-platform track fusion and correlation with state-of-the-art surveillance systems operating in a multi-target environment using data fusion. Good role for meticulous math, physics, and engineering intellectuals.
 - Relevant course work: Advanced mathematics to include linear algebra, numerical methods, and estimation theory (e.g. Bayes Theory, Kalman Filters, particle filters), and ability to work comfortably in C++, MATLAB, and/or Python.

- **Analytical Services:** Apply advanced mission level simulation and evaluation software to provide both stimulus and grading for algorithm performance. Measuring system and component performance is an important part of any advanced algorithms development that requires knowledge of all the underlying algorithms under test. The work in this area spans a wide breadth of technical fields and military operational domains. Good place for top down thinkers.
 - Relevant course work: Physics, math, programming familiarity, numerical analysis. Course level familiarity with data fusion estimation theory is helpful. Simulations are written in C++. Metrics are written in MATLAB and Python.

- **Asset Control:** Multi-asset control algorithms require multiple nested control loops ranging from high-frequency action in the moment, to low frequency task selection.
 - Relevant course work: Control systems, numerical methods, optimization techniques, and ability to program in C++, MATLAB, and/or Python.

U.S. Citizenship is Required. Ability to qualify for a US Department of Defense security clearance required.

Please e-mail resume to:
employment@toyon.com

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