

# Jacob Beel

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jbeel3@gatech.edu  
(619) 721-8030  
<http://jdbeel.github.io> — <http://github.com/jdbeel>

**OBJECTIVE** Use my knowledge in machine learning and, specifically, natural language processing to contribute to solving real-world problems and understanding the other components of data processing pipeline for decisioning and the solving of novel, interesting problems.

**EDUCATION** *Master's of Science*, Computer Science (Machine Learning)  
Georgia Institute of Technology, Atlanta, GA, expected June 2021

*Bachelor of Science*, Computer Science (Systems)  
University of California, Irvine, CA, June 2018  
Minor: Japanese

**COMPUTER SKILLS** *Languages & Software:* Python, C++, C, Haskell, Rust, PyTorch, TensorFlow  
*Operating Systems:* Windows, Unix.  
*Other Skills:* Git, Subversion, LaTeX, Google Cloud, Amazon Web Services.

**EXPERIENCE** *Researcher and Software Developer* **June 2016 - July 2019**

Member of Technical Staff at RAM Laboratories, San Diego, CA

- Researched novel uses of machine learning algorithms to analyze social media data and detect binary vulnerabilities.
- Implemented vulnerability detection methods in an advanced binary analysis application designed to detect vulnerabilities automatically on ARM devices using fuzzing, concolic execution, and dynamic analysis and deployed them at Naval research facilities.
- Developed a method for extracting data from unknown binary firmware and then analyzed that data using machine learning in order to detect anomalous and potentially vulnerable firmware.
- Presented work to customers and investors as part of a team that built novel solutions to difficult technological problems.
- Worked with experts across industry and academia to plan and propose research projects to various government agencies.

*Data Forensics Research Intern - Naval Research Enterprise Internship Program* **Summer 2015**

Research relating to data forensics under Dr. Neil Rowe at the Naval Postgraduate School, Monterey, CA

- Classified hard drives and files to determine the likely use of an acquired computer
- Corrected thousands of file misclassifications to more accurately identify hard drives
- Reworked a file cataloguing script to use concurrency to run several times faster

*Network Security Intern* **Summer 2012**

Network Security-based Software Development, Naval Information Warfare Center Pacific, San Diego, California

- Explored the viability of Python and PySide as tools to port existing network security tools from Unix to Windows

**EXTRA-  
CURRICULAR  
ACTIVITIES**

***Boy Scouts of America***

- Obtained the rank of Eagle Scout, leading several other scouts in the planning and execution of an over 100 hour community service project.