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|  | **SURF Student Colloquium**  NIST – Gaithersburg, MD  August 7-9, 2018 | | |
| **Name:** Lela Bones | | **Award Number** | 70NANB18H103 |
| **Academic Institution:** Salisbury University | | **Major:** Computer Science and Mathematics | |
| **Academic Standing (Sept. ‘18):** | Junior @ Salisbury University | | |
| **Future Plans (School/Career):** | Attending graduate school with a research focus on brain computer interfacing (BCI) | | |
| **NIST Laboratory, Division, and Group:** | Engineering Laboratory, System Integration, Life Cycle | | |
| **NIST Research Advisor:** | Thurston Sexton | | |
| **Title of Talk:** | (WORK IN PROGRESS) | | |
| **Abstract:**  Big Data is one of the fastest growing fields, used widely in many industries. However, data is useless without understanding what the data represents. Visualization presents the data in an effective manner and gives companies insight to what their data really means. The first step to visualizing data is datification. Datafication is the process of taking a process or activity that was previously invisible and turning it into data. The Nestor App uses autogenous-intelligence and Natural Language Processing (NLP) to work with the maintenance workers to create meaningful tags as a means to datify the maintenance work orders. This research project aims to use the tags from Nestor to aid the visualization process. While creating the dashboard we noticed a shortage of open source data. To resolve this problem, we researched Reccurent Neural Networks (RNNs) and found that we could train RNNs on the maintenance work orders that we have available and generate new ones. RNNs are a form of deep learning that stems from Artificial Neural Networks (ANNs), but unlike ANNs, RNNs read the data sequentially instead of individually. The purpose of this work is to simplify and visualize the usefulness of the Nestor Tagging App and allow companies to better visualize their data. | | | |