# eox vantage™

## Goal

**The goal will help to intensify partnerships between PES and EOX Vantage in the multiple areas, including technical and professional education and training, and to open up new and innovative areas of cooperation.**

## Scope of Work

**Are you looking for an exciting and challenging internship opportunity that will give you real world experience and help you stand out in the job market? Look no further!**

EOX Vantage is offering unique projects long term projects that will help students like you gain real world business experience that will help them either get internship / full time employment at EOX Vantage or at other organizations when you graduate.

But that's not all - you'll have the chance to work with US clients and counterparts, giving you valuable industry-grade exposure and the opportunity to make professional connections.

Don't miss out on this amazing opportunity to gain hands-on experience, improve your skills, and make a difference for real businesses. Join our organization and take the first step towards a successful career in tech!

1. **EOX Application Development**

    a. **Client Applications:**

As a student you get to hone your software development skills, but you'll also get to explore the world of low-code and no-code systems, which are becoming increasingly important in today's tech industry.

But that's not all - you'll have the chance to work with US clients and counterparts, giving you valuable industry-grade exposure and the opportunity to make professional connections.

    b. **Operational Intelligence Development**

As a student, you'll have the chance to work on a project that involves building complex, dynamic user interfaces for viewing and manipulating specific data and creating actionable dashboards. The world of web interfaces is constantly changing, and it's important to be able to create operational intelligence rather than just static dashboards.

In this project, you'll have the opportunity to work directly with industry experts on the patented EOX enterprise operating system and operational intelligence (OI) to deliver client

requirements at a rapid pace. You'll also get to design cutting edge interfaces across different data sources on the AWS cloud. This is an incredible opportunity for you to gain valuable experience and work with professionals in the field, even if you have just a few years of experience under your belt. Don't miss out on this chance to make a difference and enhance your skills in the tech industry.

### c. Robotic Process Automation with ML

Build industry robust automation workflows (robotic processes automation and finite state machine based automaton) that will help the applications in the first problem statement cater to the specific needs of the organization Robotic process automation (RPA) is an emerging trend in the industry. RPA with workflow management tools along with AI to help improve the image processing is helping our clients gain value from the EOX system. Students working on this project will get a industry experience in RPA, Data Science, Artificial Intelligence, and workflows. This will help them get a serious advantage over their peers.

### d. Reusable workflows

Create reusable workflows that help organizations leverage previous workflows created for other organizations to help the time to market. Workflows are the heart of any business system. Learning a industry standard workflow tool and using workflow tools in industry requirements will give students an understanding of the requirements of global clients in fortune 1000 organizations along with providing them the skills needed to help them throughout their career. EOX has two different workflow management micro-services. In this project students will EOX software architects and design reusable workflow components that will help several industry requirements.

### e. NLP interfaces to the EOX operating system

Use cutting edge tools like RASA, ChatGPT, GoogleFlow, etc. to create a NLP based interface for the patent EOX Enterprise Operating System

EOX has been working on language based query systems for the last 5 years using open source AI tools to help in creating a structure that machine readable. In this project students will be building on research framework on the next generation product along with initially building out language implementation of these NLP questions for EOX internal use. These is no guessing on the kind of value add it would provide to the students. Students will get exposed to these AI tools and NLP based bot programming that will help them immensely in their career

### f. Configure NLP Interfaces

Configure the NLP interfaces to be integrated with commercial chat interfaces like Google Assistant, Alexa, etc

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### g. Mobile interface to the EOX platform

Create entire new multi operating system mobile interfaces (Applications) to the EOX product This a dream project for students interested in build mobile development. This is going to be green field project at industry scale that will provide students the experience of building a turnkey solution that is going to build their skills in reat native, APIs, UI/UX design among other skills.

### h. Analysts using AI and ML

Create AI based algorithms for industry specific problems in analytic like coming with driver scores for insurance rating based on millions of rows of data from real world disparate data sources. PES and EOX Vantage have been working on the forecasting/prediction of industry information to help clients solve real world problems in the United States. In this project team members are going learn implement ML/AI algorithms on large data set based problems. They will also work with industry experts in understanding how to build out such models that will help them in their careers

### i. Process mining tools

Build a process mining tool to help ensure that we reuse and build out process maps based on the high level business requirements. Students working on this project will get to explore a brand new sector of the industry that combines operational strategy with computer science. This will include management science like operational excellence, product management and operations management. Ideal for students that would like to persue MBA after their engineering.

## 2. Container and Kubernetes

### a. Kubernetes access to Cloud Provider API encryption

As Kubernetes is entirely API driven, controlling and limiting who can access the cluster and what actions they are allowed to perform is the first line of defense.

Kubernetes expects that all API communication in the cluster is encrypted by default with TLS, and the majority of installation methods will allow the necessary certificates to be created and distributed to the cluster components. Note that some components and installation methods may enable local ports over HTTP and administrators should familiarize themselves with the settings of each component to identify potentially unsecured traffic.

How to secure a cluster - https://kubernetes.io/docs/tasks/administer-cluster/securing-a-cluster/

**b. Deploy microservices to a Kubernetes clusters**

This research and implementation is used to reduce the life-cycle of deployment of the finished containers into cloud

In a microservices architecture, each microservice performs a simple task and communicates with clients or other microservices by using lightweight mechanisms such as REST API requests.

You can code each microservice using a programming language that's best suited for the task that it performs. Microservices-based applications are easier to deploy and maintain.

https://docs.oracle.com/en/solutions/deploy-microservices/index.html#GUID-3BB86E87-11C6-4DF1-8CA9-1FD385A9B9E9

https://medium.com/faun/microservices-on-kubernetes-18d853b3ca84

https://medium.com/@srikanth.k/kubernetes-what-is-it-what-problems-does-it-solve-how-does-it-compare-with-its-alternatives-937fe80b754f