**CS486C Honors Contract**

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Much of this contract is boilerplate, i.e., you can use it as a model and just edit the sections (highlighted in yellow) to make it focus on your project and what you are proposing to add to it to justify your honors status. Once approved the Capstone faculty organizer and signed by both parties, this contract becomes the basis for your Honors extension of Capstone. Remove the instructions and highlighting, of course, to present a clean professional document!

**Introduction**

Computer Science Capstone Design is an unusual course, in that it centers around a semi-independent software consulting experience, in which teams of students work on unique, real-world, software development projects proposed by real-world clients. Because the detailed deliverables for each team will vary, it makes it slightly more challenging to add “honors deliverables” to this course; how can we distinguish between an honors deliverable and just nice features of the product that the team would/should develop anyway? Honors “extensions” should certainly be related to the project and often appear as deliverable product features, but adhere to several key guidelines:

* The extension idea, as well as all aspects of research, development, or testing the feature shall be wholly or substantially completed by the honors candidate personally. Teammates may of course advise, give design feedback and collaborate in integration, but all core work is done by the candidate.
* Honors versions of Capstone courses are based on adding “scholarly investigation” to the otherwise practical nature of CS Capstone. The candidate must choose (with approval of instructor) a particular aspect or topic related to the project; the honors deliverable consists of researching, implementing, and refining that aspect.
* All honors deliverables must result in one or more working features (typically “stretch goals”, i.e., not what the team was expected to finish anyway) of the product. That is, pure research without some form of implementation and testing is not supported.

**The proposed honors project**

This honors project relates to the development of a machine learning software that aims to help our client easily develop machine learning models. The project seeks to accomplish this by providing a “pipeline” that will aid in simplifying the process of training and validation as well as an application programing interface to help with using the machine learning data gathering and usage on mobile devices. What is proposed as an Honors extension to this project is an academic paper that will introduce the reader to various machine learning parameters, optimizations, and some general concepts. At minimum will introduce the concept of machine learning parameters, discuss the finer details on how these parameters work, and provide the reader with information on methodologies of optimization related to these parameters.

The specific deliverables (in addition to regular Capstone deliverables) associated with this effort will be:

<this is where you bullet out your proposal in terms of specific deliverables. And example is given below; replace them with your own specific bullets based on your specific project>

* A 10 to 15 page paper on the topic of machine learning parameters and optimization. This papers content will at minimum will introduce the concept of machine learning parameters, discuss the finer details on how these parameters work, and provide the reader with information on methodologies of optimization related to these parameters.
* An annotated bibliography containing 10 to 15 APA formatted citations each with a paragraph briefly explaining their relevance to the paper topic.
* A piece of software code that when run will ask the user a series of informed questions based on the research conducted on the paper and produce an output of a valid configuration file containing initial learning parameters that can be used with the projects pipeline.

This relates to the project my team is working on for CS 486C which involves developing software which will ease the training and creation of machine learning kernels. This paper will allow me to deepen my understanding of the topic of machine learning that normally would not be gained in the capstone class.

**Assignment/Grade**

Assignments added to the course:

* Annotated bibliography with 10 to 15 citations due by the end of February.
* 10 to 15 page academic paper due by the end of April.
* A “Configuration Wizard” program due by the end of April.

Here is the updated grade percentage for the class found on page 2 of the syllabus

* Written deliverables, including final report = 15%
* **[Honors Capstone] Academic Paper on machine learning parameters +**

**Annotated Bibliography + software module = 10%**

* Mid-term alpha demo = 10%
* DR presentations = 15%
* Capstone Presentation, Poster, and team website = 15%
* Product Acceptance demo = 10%
* Team Sponsor Evals = 10%
* Team mentor eval = 15%

**Signatures**

In signing this document, both parties agree that it will serve as an addendum, modifying specified aspects of the course syllabus. Unless otherwise detailed, Honors candidate must complete all deliverables and requirements of the regular course, in addition to their Honors extensions.

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| The Student:Print name: Date:Signature: | Capstone Faculty:Print name: Date:Signature: |