Ryan Smith

CIS 410 Portfolio

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Table of Contents

Section I Resume and Cover Letter
Includes my resume and cover letter targeted for a job description.

Section II Business and Systems Analysis
Classes and examples of work related to business and systems analysis.

Section III Database Design and Applications
Classes and examples of work related to database design and applications.

Section IV Programming Skills
Classes and examples of work related to my programming skills.

Section V Information Security
Classes and examples of work related to information security.

Section VI Skill Set Sheet
My professional skill set.

Section VII Professional References
Contact information for my professional references.

Section VIII All Courses
Contains summary of all CIS courses I have taken.

Section I Resume and Cover Letter

Résumé

Cover Letter

Targeted Job Description

Title:
Junior Level .Net Software Developer

Description:

Prosoft is seeking qualified candidates for a Junior Level .Net Software Developer position with our client in Louisville, Kentucky.

- This is a **full-time, direct hire position** located in the East End of Louisville.

Position Responsibilities:

- Work with stakeholders to develop technical specifications and understand requirements for business systems required by various groups
- Follow SDLC processes and work as part of an Agile development team
- Maintenance and ownership of assigned projects
- Write, modify, and debug web applications

Required Education:

- Bachelor's degree in computer science or other related field or equivalent experience in a software development role**.**

Required Skills and Abilities include:

- 1-3 years of design and development experience in C# .Net / Visual Studio
- Previous experience with SQL Server, SSAS, SSIS
- Previous experience with ASP.Net MVC, WCF, WF, TFS, etc
- Understanding of Agile principles and SDLC
- Understanding business needs and ensures smooth integration between business and technical teams
- Ability to effectively collaborate and communicate with a variety of IT and Business stakeholders

Section II Business and Systems Analysis

This section will cover the classes I took and relevant assignments for business and systems analysis.

CIS 320 - Systems Analysis and Design
Course Description :
Introduces the fundamentals of object-oriented analysis and design, including experience with a CASE tool. Topics include requirements determination, feasibility analysis, modeling with Unified Modeling Language (UML) and data dictionary construction, data modeling and normalization, user interface requirements specification, and information security procedures. Development of problem and design specifications for an information systems project is required. Develops team skills, written and oral communication skills.

As part of a team I helped create a system proposal for the Kentucky Horsemen's Benevolent and Protective Association (KYHBPA), a non-profit that provides benefits to horsemen and their families. This analysis and design would later be used to build and implement the system in CIS 420.

Iteration 1
Includes :
System Request - Document that describes the business reasons for building the proposed system and the value it is expected to provide.
Technical, Economic, and Organizational Feasibility Analysis
Process and User stories
Team Charter

Iteration 2
Includes :
Vision Document
System Requirements
Inception Phase prototype (To-Be model)

Iteration 3
Includes :
Use Cases
Use Case Diagram
Gantt Chart

Iteration 4
Includes :

Use Cases
System Requirements
Class Diagrams
Use Case Diagram
Use Case Prototypes

Iteration 5
Includes :
Class diagram
Database design and data definitions
user interface navigation diagram and screen layouts
Gantt chart
User Interface Prototype

Elaboration Spec - Final product
Includes : System Requirements, Use Case Diagram, Trace Matrix, Use Cases, Sequence Diagrams, Class Diagrams, Database Design and Data Definitions, User Interface Navigation Diagram and Screen Layouts,Physical Architecture Design, Design Procedures for Security Concerns and Non-functional Requirements, Gantt Chart, Elaboration Phase Prototype

CIS 410 - Management of Information Systems
Course Description :
Explores strategic development of information technology; value chain analysis and its application to information resource management; information systems planning; organizing, staffing, and controlling the deployment of information technology; the development of an IT platform and architecture consistent with organizational structure.

In this class we looked at a lot of different case studies involving information systems. I also worked with the non-profit Louisville Nature Center to do a strategic assessment of their information technology.

The following are case studies where an organization has an information technology dilema. I conduct an industry competitive analysis, identify stakeholders, generate alternatives, analyze impact, and provide my recommendation.

Case 1 - Burlington Northern

Case 2 - Apex

Case 3 - Symmantec

Case 4 - Webvan

Case 5 - Agrico

Case 6 - Waco

Case 7 - IRS

Case 8 - Connor Metals

The following is my strategic assessment of the IT architecture at the non-profit Louisville Nature Center. I analyzed there current position and provided realistic recommendations to help them achieve their organizational goals. This assessment contained a history of the organization, analysis of their current management and business processes, analysis of their current IT environment, a look at their envisioned IT capabilities, a technology inventory, and my recommendation.
Louisville Nature Center Strategic Assessment
(In Progress)

Section III Database Design and Applications

CIS 310 - Database Design
Course Description :
This course will provide a solid and practical foundation for the design and implementation of database systems. Emphasis will be on relational database models, with significant coverage of basic relational database concepts, normalization, E-R modeling, locking, SQL, and distributed databases. Additional topics include web database, database security, access control policies and procedures, risk management, and ethical aspects of information handling. Course software includes current database tools such as SQL server.

This class was my introduction to SQL. We did E-R modeling as the basis for database design. We primarily covered the relational model, normalization, and SQL.

Assignment 4 - SQL natural join activity

Assignment 7 - Creating SQL queries and SQL Server ERD
Assignment 7 Diagram

Assignment 8 - Creating more advanced SQL queries, introduction to creating tables and views.

Assignment 9 - SQL activity creating a trigger

SQL Activity to design, populate, and extract data from a star-schema design.
Assignment 10 ERD
Assignment 10P1
Assignment 10P2
Assignment 10P3
Assignment 10P4

Assignment 11 - SQL activity for creating stored procedures.

CIS 420 - CIS Development Project
Course Description :
A continuation of CIS 320, this course focuses on the detailed design and implementation phases of the system development life cycle, including user acceptance testing, test planning, design reviews, and change procedures. Specifications created in CIS 320 are used to implement, test, and install a working version of an information system. System deployment emphasizes a web-based architecture. A prototyping approach is taken to develop and test the system in an iterative manner. Students are grouped into project teams, and each team member accepts task assignments necessary to deliver the information system prototype.

In our development project we used Microsoft Entity Framework and code based migrations to create the database for the KYHBPA. This database would handle user accounts on the website and the actual membership of the organization.
https://kyhbpa.org/

Section IV Programming Skills

CIS 199 - Software Development I

Course Description :
This course introduces object-oriented concepts such as the use of classes, methods, encapsulation, and inheritance. The course concentrates on using object-oriented programming to solve simple problems involving input and output. Computer lab sessions are used to reinforce programming concepts. Extensive programming assignments are required.

This class was an introduction to object oriented programming using Microsoft Visual Studio and C#. We covered control flow, looping, methods, classes, and one dimensional arrays. For Object-Oriented Programing we covered classes, encapsulation, and inheritance. Most of the programs we created were GUI's.

Program 1 - Programming assignment using variables and basic calculations.

Program 2 - GUI program to calculate when you will register for your classes based on user input of last name and number of credit hours. Nested if/else statements were used for decision logic.

Program 3 - Improved version of Program 2 using parallel arrays and range matching.

Program 4 - GUI program to model a simple library, allowing books to be created, examined, checked out, and returned. Uses classes.

CIS 200 - Software Development II

Course Description :
This course emphasizes object-oriented software development. Students study the object model and apply it to systems development problems. Topics include polymorphism, inheritance, and object interaction. Event-driven programming of graphical user interfaces is introduced. Application areas may include data structures, searching, sorting, and databases. Extensive programming assignments are required.

This was a continuation of CIS 199, diving into deeper topics and assignments. For OOP encapsulation, inheritance, and polymorphism. Exception handling in C#, basic file processing, simple data structures and collections, recursion, algorithm efficiency, sorting algorithms, generic methods, databases and LINQ.

Program 0 - Programming assignment to model a library using composition and inheritance.

Program 1A - Continued library model expanding the class hierarchy and using polymorphism.

Program 1B - Continuation of 1A utilizing LINQ

Program 2 - Continuation of 1B with added GUI elements, validation, and exception handling.

Program 3 - Continuation of 2 with more GUI elements, and file handling.

Program 4 - Continuation of 1 using comparers.

Program 5 - Continuation of 3 with added library elements.

CIS 411 - Web Application Development

Course Description :

This course introduces dynamic web applications and how they are developed. Students will understand the role of client-side and server-side technologies, and use web forms, various server controls and session objects to develop multipage web applications. Students will gain system development experience with current web development tools and platforms.

This class was my introduction to HTML, CSS, ASPX, and JavaScript. We used Visual Studio for development. We used HTML and CSS to design web pages and JavaScript to make them dynamic.

The 2 major homework assignments serve as the example of the skills learned during this course.

Assignment 1

Assignment 2

CIS 420 - CIS Development Project

Course Description :

A continuation of CIS 320, this course focuses on the detailed design and implementation phases of the system development life cycle, including user acceptance testing, test planning, design reviews, and change procedures. Specifications created in CIS 320 are used to implement, test, and install a working version of an information system. System deployment emphasizes a web-based architecture. A prototyping approach is taken to develop and test the system in an iterative manner. Students are grouped into project teams, and each team member accepts task assignments necessary to deliver the information system prototype.

This class was the peak of development. We used C#, HTML, and CSS to create a .NET MVC website for the KYHBPA. My teams website was selected to be implemented as the official website for the KYHBPA. We used the design documents from CIS 320 to create this website. https://kyhbpa.org/

Section V Information Security

CIS 480 - Introduction to Network Security

Course Description :

Basic concepts of networking, operations security, protocol features for security, transmission security, packet filtering, TCP wrappers, firewalls, computer viruses, physical protection, legal protection, liability issues, significance of National Security Directive 42, implications of Computer Security Act, CERT recommendations, assessment of threats and vulnerabilities of systems, security countermeasures, contingency planning, disaster recovery, risk management, and auditing and monitoring, policies and procedures dealing with storage and disposition of sensitive data.

CIs 481 - Introduction to Information Security

Course Description :

Basic notions of confidentiality, integrity, availability, authentication models, protection models, security kernels, audit, intrusion detection, operational security issues, physical security issues, security system life cycle management, personnel security, policy formation and enforcement, trust modeling, risks and vulnerabilities assessment, basic issues of law and privacy, trade secrets, employee covenants, copyright, database protection, software and hardware validation, verification and certification.

Facial Recognition Paper

Facial Recognition Presentation

CIS 484 - Computer Forensics

Course Description :

Basic computer forensics concepts involving evidence collection, preservation, and presentation in court. Technology tools to analyze files, implications on privacy, ethics, policies, risk management and legal aspects will be covered.

The primary aim of this course is to prepare the students with basic knowledge to perform forensics acquisitions, perform basic computer forensic examinations and prepare reports of their findings. The course is intended to provide students with an understanding of:

- Fundamentals of computer forensics

- Forensic acquisition methodologies
- The role of the computer examiner in legal disputes
- Computer forensic examinations
- How to prepare a written report of methods and findings

Full Investigation
(In Progress)

Presentation
(In Progress)

Section VI Skill Set Sheet

Languages
C# - Intermediate
Visual Studio - Intermediate
HTML – Intermediate
SQL – Expert
JavaScript – Novice
CSS – Novice

Applications
Microsoft Office Suite - Expert
SharePoint - Novice
SSRS - Expert
SSIS - Intermediate

Databases
SQL Server - Expert
Microsoft Access - Expert

Operating Systems
Microsoft – Expert
Linux - Novice

Technical Writing
Use Cases - Intermediate
Use Case Diagrams - Intermediate
Net Present Value Analysis - Novice
Sequence Diagrams - Novice
Entity Relationship Diagrams - Expert
Normalization Charts - Intermediate
Class Diagrams - Novice

Section VII Professional References

Former Supervisor
Kenneth Jinks
kjinks@orrcorp.com
Controller Orr Safety Corporation

Current Supervisor
Tina Mann
TMann@orrcorp.com
Assistant Controller Orr Safety Corporation

Edy Stickler
estickler@orrcorp.com
Credit Manager Orr Safety Corporation

Section VIII All Courses

All courses :

CIS 100 - Introduction to Microcomputer Applications
Prerequisite: Enrollment is limited to students admitted to the College of Business or taking minors in the COB, or students classified as Pre-Business in the College of Arts and Sciences. Use of microcomputer application software and Microsoft Windows to create business documents and to conduct business analysis. The course emphasizes Microsoft Office: Word, Excel, Power Point, and Access. The course provides an overview of computer concepts and terminology, such as the various types of hardware, software, firmware, memory and networks. A major objective of this course is the use of Office Suite.

CIS 150 - Fundamentals of Information Systems
This course provides an overview of contemporary information systems, and how they are used in global organizations. It emphasizes the key components of information systems (people, software, hardware, data and communication technologies) and how these components can be used to create competitive advantage. Topics include application systems, enterprise-wide systems (such as enterprise resource planning and customer relationship management), project management, and IS career opportunities.

CIS 199 - Software Develpoment I
Prerequisite: CIS 100, CIS 150. This course introduces object-oriented concepts such as the use of classes, methods, encapsulation, and inheritance. The course concentrates on using object-oriented programming to solve simple problems involving input and output. Computer lab sessions are used to reinforce programming concepts. Extensive programming assignments are required.

CIS 200 - Software Development II
Prerequisite: CIS 199. This course emphasizes object-oriented software development. Students study the object model and apply it to systems development problems. Topics include polymorphism, inheritance, and object interaction. Event-driven programming of graphical user interfaces is introduced. Application areas may include data structures, searching, sorting, and databases. Extensive programming assignments are required.

CIS 300 Computer Information Systems
Prerequisite: CIS 100. The study of computer information systems as they support business processes. Topics include the role of data, data manipulation, database management, information management and decision making, systems analysis and design, historical vs. current methodology in data communications, hardware and software in telecommunications, an

overview of automated information systems, and policies and procedures needed to protect an information system. Advanced use of spreadsheet and database software.

CIS 310 - Database Design
Prerequisite: CIS 199, CIS 300. This course will provide a solid and practical foundation for the design and implementation of database systems. Emphasis will be on relational database models, with significant coverage of basic relational database concepts, normalization, E-R modeling, locking, SQL, and distributed databases. Additional topics include web database, database security, access control policies and procedures, risk management, and ethical aspects of information handling. Course software includes current database tools such as SQL server.

CIS 320 - Systems Analysis and Design
Prerequisite: CIS 199, CIS 300. Introduces the fundamentals of object-oriented analysis and design, including experience with a CASE tool. Topics include requirements determination, feasibility analysis, modeling with Unified Modeling Language (UML) and data dictionary construction, data modeling and normalization, user interface requirements specification, and information security procedures. Development of problem and design specifications for an information systems project is required. Develops team skills, written and oral communication skills.

CIS 350 - Infrastructure Technologies
Prerequisite: CIS 199. This course provides an introduction to IT infrastructure issues and covers topics related to computer and systems architecture and communication networks, with an overall focus on the services and capabilities that IT infrastructure solutions enable in an organizational context. It gives students the knowledge and skills that they need for communicating effectively with professionals whose special focus is on hardware and systems software technology and for designing processes and solutions that require in-depth understanding of the IT infrastructure capabilities and limitations. It also prepares students for interaction with external vendors of IT infrastructure components and solutions.

CIS 410 - Management of Information Systems
Prerequisite: CIS 310, CIS 320, and CIS 350; Senior standing. Explores strategic development of information technology; value chain analysis and its application to information resource management; information systems planning; organizing, staffing, and controlling the deployment of information technology; the development of an IT platform and architecture consistent with organizational structure.

CIS 411 - Web Application Development
Prerequisite: CIS 200, CIS 310, and CIS 350. This course introduces dynamic web applications and how they are developed. Students will understand the role of client-side and server-side technologies, and use web forms, various server controls and session objects to develop

multipage web applications. Students will gain system development experience with current web development tools and platforms.

CIS 420 - CIS Development Project
Prerequisite: CIS 310, CIS 320 and CIS 350. A continuation of CIS 320, this course focuses on the detailed design and implementation phases of the system development life cycle, including user acceptance testing, test planning, design reviews, and change procedures. Specifications created in CIS 320 are used to implement, test, and install a working version of an information system. System deployment emphasizes a web-based architecture. A prototyping approach is taken to develop and test the system in an iterative manner. Students are grouped into project teams, and each team member accepts task assignments necessary to deliver the information system prototype.

CIS 444- Data Analytics
Prerequisite: BSTA 201, CIS 300. This course reviews and builds on the fundamental statistical concepts and techniques covered in the undergraduate Business Statistics course. Students will learn to model data and use analytical skills to solve real business problems. Topics include exploratory data analysis, estimation, statistical inference about populations, hypothesis testing, ANOVA, linear and multiple regression, and logistic regression.

CIS 480 - Introduction to Network Security
Prerequisite: CIS 350, CIS 481. Basic concepts of networking, operations security, protocol features for security, transmission security, packet filtering, TCP wrappers, firewalls, computer viruses, physical protection, legal protection, liability issues, significance of National Security Directive 42, implications of Computer Security Act, CERT recommendations, assessment of threats and vulnerabilities of systems, security countermeasures, contingency planning, disaster recovery, risk management, and auditing and monitoring, policies and procedures dealing with storage and disposition of sensitive data.

CIS 481 - Introduction to Information Security
Prerequisite: CIS 320. Basic notions of confidentiality, integrity, availability, authentication models, protection models, security kernels, audit, intrusion detection, operational security issues, physical security issues, security system life cycle management, personnel security, policy formation and enforcement, trust modeling, risks and vulnerabilities assessment, basic issues of law and privacy, trade secrets, employee covenants, copyright, database protection, software and hardware validation, verification and certification.

CIS 484 - Computer Forensics
Prerequisite: CIS 350 and CIS 481. Basic computer forensics concepts involving evidence collection, preservation, and presentation in court. Technology tools to analyze files, implications on privacy, ethics, policies, risk management and legal aspects will be covered.