

# Brian Carter

## LETTER OF APPLICATION

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This is my letter of application for the department chair position at Bellarmine University, Applied Information Technology Programs. When I meet with Dr. Michael Mattei, it is clear that Bellarmine is a teaching university. Our conversation focused on improving the programs and preparing students for enterprise careers.

I agreed to teach a night course, Sys Analysis and Design, in the spring. I'm looking forward to teaching in an applied program, similar to the program at the University of Detroit Mercy where I received my masters and taught several courses.

I've included a short overview of my background and research interest below. My CV provides the chronological steps but my background shows where my interests are. I've managed and lead many large, mission critical IT projects for leading companies and startups. My emphasis is on software engineering, from the backend data storage to the user interface. As an architect, I lead teams to success by providing a project plan and executing that plan. Products are delivered by having a clear understanding of each layer of the software process to formulate the correct architecture. I'd like to have the opportunity to share my knowledge and experience with students at Bellarmine University.

Thank you for your time and consideration. If you have any questions or would like to discuss my credentials further, please feel free to contact me. I look forward to the teaching opportunity this spring and the possibility of exploring the department chair position.

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## **1. BACKGROUND**

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After completing my military service with an honorable discharge, I enrolled at the University of Michigan. In high school and in the military, I always had an interest in computers. Whether it was writing programs or assembling the hardware, it grew from a hobby to a career choice.

I enrolled in the Computer Science program at the University of Michigan. The program provided me the technical knowledge I required to take my dream from a hobby to a career. From the beginning, I realized the need to enforce and implement this knowledge. I enrolled in the co-operative studies program. Through this program, I was able to get real life experience in the computer field. This included several semesters at the Great Lakes Environmental Research Laboratory. As a computer science trainee, I participated in geological research working with the hydrologists. As part of the team, I wrote computer programs to support and extend the hydrology research.

After graduating from the University of Michigan with honors, I accepted a position at EDS. I started in their Systems Engineering Development training program. Through this program, I worked with senior engineers on software projects, and completed several courses. I graduated from the program and shortly after was leading software development projects. Now as a leader and a mentor, I was missing some key knowledge – the management side of computer science.

To gain this knowledge, I enrolled in the Masters program at the University of Detroit Mercy. The program specialized in software management. The Computer and Information Systems program gave me the avenue to learn the management aspects. By leveraging my work at EDS and my studies, I was able to gain the knowledge and understanding to effectively manage software projects.

While leading projects and teams, I enjoyed teaching people how to manage and develop software. After graduating from the University of Detroit Mercy, I was offered the opportunity to become an adjunct professor. I accepted this challenge, and really enjoyed the experience. For the next few years, I taught several undergraduate and Masters Courses in the Computer and Information Systems program.

After working with a few small companies, I was able to put my knowledge into practice. I was successful in leading projects and moved on to develop commercial software packages. Package software is a key interest of mine. To explore this concept further, I accepted a job at Microsoft. Being one of the leading software providers, this was the opportunity I needed to learn how software was developed – on a large scale. With Microsoft, I worked with several large companies to provide architectures and solutions. I was exposed to many companies and their information, and I found a common thread. By understanding this common thread, I had the opportunity to work on the research for Microsoft. My research area was to develop the architecture and design for the searching features. My research included many elements of searching including taxonomies, multi-level searching, optimization of search algorithms, and the affects of searching clustered servers. As part of a research team, I was able to explore many complex topics and understand how large scale research is conducted. This is where I became interested in information management.

Completing solutions and delivery of such large projects was very rewarding. After several years of reflecting, the difference I made teaching was the greatest reward. Seeing several of my students take leading roles in companies, I decided it was time to pursue my Ph.D. and prepare for an academic position.

I'm looking for a university where I can make a difference and position students for success. A healthy blend of real world projects, research, and teaching will enable students to take jobs in our community and advance our field. While this approach takes more time, it is time well spent. Many professors took the extra time for me, and that is what I would like to return.

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## 2. RESEARCH INTEREST

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I'm a leader and visionary of software for personal, business and research computing. My focus is to bring data to life through viable interfaces; fusing of application and interfaces. Technology has an exponential path in front of it from science, healthcare, business to personal interactions. It is becoming increasingly important to society and our daily lives. Information must evolve in ways to help us in every step along our path; change, evolve, adapt.

Information is the key to our society. I believe the key is providing the right information, at the right time, to the right people, in the right perspective. The field of computer science is evolving. I believe that information management will be the next step in this evolution. Like my research with Microsoft and the University of Louisville, I can use my knowledge and experience in computer science to evolve data to useful information.

Many different groups in society are expressing this need. From government, adult foster care, automotive, home repair, education, society groups, and our community – all need a medium to convey their information. It is no longer sufficient to custom develop or require technical knowledge to expose information. Tools for information management must be created and made available to society. The tools must have field specific content, be easy to use, made available to everyone, and affordable.

My research explores using sensory devices to collect and publish readings. The other critical part of my research is retrieval of such readings. Having a content engine is the key to the successful storage, retrieval, and aggregation of sensory information. Through my research, I have published many papers and sessions on sensor frameworks.

My research explores the area of sensory information management and how to enable society to manage their information. I see this as a four phase process:

- **Research**

My research initiates research in the area of sensory information management.

- Explore, investigate, and contemplate the area of sensory information management
- Develop an understanding of the principles of sensory information management
- Investigate how society absorbs sensory information through the presentation and searching of information
- Form research and key interest groups to verify and participate in the research

- **Enable**

The results of my scientific research are used to develop new products or improve those that exist.

- Conduct investigations to support my research
- Develop hardware to enable sensor data collection
- Develop applications for sensory information management
- Move the focus from development tools to the management of information
- Discover new techniques that aid in building, using, and retrieval of sensory information
- Develop new abstractions, new approaches, new algorithms, new principles, and new mechanisms for sensory information management.

- **Execute**

I work with leading elements in government and commercial areas to execute the solution.

- Build partnerships to solve sensory information management problems
- Evolve the applications by using the feedback from implementation
- Develop testimonials on the effectiveness of use
- Gather additional areas for topics and research

- **Contribute**

My goal is to continually promote the understanding and principles of sensory information sciences.

- Contribute source products that will enable universal, easy to use, and affordable means of sensory information management
- Educate, train, and provide services to our information based society

Therefore, my research is focused in the area of sensory information sciences. My goal is to research new ways to present, distribute, and retrieve information through the use of advance technology. My research enables our society to present and retrieve information through the use of existing and new software products. My current research is directed in specific areas, tracking of information in the military settings and enabling businesses to gain a sensory presence.