Kirk G. Kanzelberger

Steubenville, OH

k.kanzelberger@lyceum.institute
http://www.linkedin.com/pub/kirk-kanzelberger/35/492/536/

Summary

- From 2011, philosophy Ph.D. with research interests in moral psychology, Peircean semiotics, the Latin philosophical tradition (Augustine to Poinsot), evolution and philosophy. Currently lecturing at Franciscan University in philosophical anthropology, ethics, logic, and metaphysics.

- From 1985, software architect and engineer with experience in both industrial and research settings. Lead engineer at a successful enterprise software startup (Netrics) acquired by a Silicon Valley firm (TIBCO). Now a self-employed consultant to select enterprise software clients.

Education

Ph.D., Philosophy
FORDHAM UNIVERSITY, Bronx, NY
2011
Doctoral Dissertation: *The Mystical Daydream: Fictive Being and the Motive of Evil*

M.A., Philosophy
FORDHAM UNIVERSITY, Bronx, NY
1999

M.A., Theology
DOMINICAN SCHOOL OF PHILOSOPHY AND THEOLOGY, Berkeley, CA
1994

B.S., Biology
CALIFORNIA INSTITUTE OF TECHNOLOGY, Pasadena, CA
1984
Two courses shy of a double major in Mathematics.

Academic Publications

"Reality and the Meaning of Evil"
REALITY: A Journal for Philosophical Discourse, Vol. 1, No. 1 (2020), pp. 146-204.

Review of *Thinking About Thinking: What Kind of Conversation is Philosophy?* (New York: Fordham University Press, 2012), by Adriaan T. Peperzak, in *International Philosophical Quarterly,* volume 56, issue 4 (December, 2016).

"Lifeworld''

New Catholic Encyclopedia Supplement 2012-13: Ethics and Philosophy, ed. Robert L. Fastiggi, 4 vols, (Detroit: Gale, 2013).

"Self-Fullfilment/Self-Realization"
Catholic Social Thought, Social Science, and Social Policy: An Encyclopedia, ed. Joseph A. Varacalli, Stephen M. Krason, and Richard S. Myers (Lanham, Maryland: Scarecrow Press, 2005).

"Works of Mercy, Corporal and Spiritual," *Catholic Social Thought, Social Science, and Social Policy: An Encyclopedia*, ed. Joseph A. Varacalli, Stephen M. Krason, and Richard S. Myers (Lanham, Maryland: Scarecrow Press, 2005).

Academic Teaching Experience

Lecturer in Philosophy
FRANCISCAN UNIVERSITY OF STEUBENVILLE, Steubenville, OH
April 2016 – Present

Lecturer in philosophical anthropology, philosophical ethics, metaphysics and logic. My teaching emphasizes both intellectual history and a philosophical approach to contemporary questions.

Graduate student teaching experience:
Adjunct in Philosophy, Seton Hall University, South Orange, NJ (Spring 2001) (philosophy of God).
Graduate Student Instructor, Fordham University, Bronx, NY (Spring - Fall 1999) (philosophical ethics, philosophical anthropology).

Technical Career Experience

Enterprise Software Consultant
SELF-EMPLOYED, Steubenville, OH
April 2016 – Present

Broad-based consulting to enterprise software firms: algorithm and platform design, research, whitepapers, presentations, educational collateral for driving sales, etc., leveraging scientific background, software design expertise, scholarly training, research, writing, speaking, and teaching skills according to the needs of the client.

Research and Development Associate
DELOITTE & TOUCHE, LLP, Jersey City, NJ
May 2014 – March 2016

I was a member of an interdisciplinary R&D team within Cyber Risk Services. Development activities included:

- A novel method for scanning textual and non-textual artifacts for patterns in signals intelligence scenarios (e.g., cyber reconnaissance), based on repurposing and enhancement of public domain inexact matching algorithms.

- An extensible entity extraction framework for a cyberanalytics platform, supporting generic plug-in extraction methods and scalable across a network of servers.

- Collaboration on a collection framework and a set of open source data collectors for cyber risk sensing applications.

Advanced Technology Developer
INNODATA (Radical Engineering Division), Princeton, NJ
August 2012 – April 2014

My development work for Innodata focused on designing algorithms for the optimization of various facets of formerly human labor-intensive data conversion and information extraction services. Core development projects included:

- An engine for automatically inferring hypertext links to the full range of internal and external targets (sectional cross-references, footnotes, bibliographic citations, page references, URLs, etc.) for a new PDF to e-pub conversion platform.

- An engine for tagging bibliographic references based on statistical modeling using CRFs (conditional random fields) to predict and label token sequences with a high degree of accuracy, along with a JS web app for algorithm training and review purposes.

- A collection of domain-specific inexact matching modules for extraction of pertinent items from OCR medical data including codes, dates, and watch phrases - the equivalent of hundreds of thousands of continuous queries.

Senior Engineering Manager (June 2011 – July 2012)
Senior Software Engineer (March 2010 – June 2011)
TIBCO SOFTWARE, Palo Alto, CA
March 2010 – July 2012

As software engineer for TIBCO following its acquisition of Netrics (see previous position below), I continued to maintain the core Netrics matching software. During this period I invented and implemented a method for naturally enhancing the graph-theoretic matching algorithm with language-specific phonetic knowledge.

As senior engineering manager, I managed the Netrics core engineering team, determined feasibility of projects and release requirements, trained new talent, and acted as the engineering liaison with other groups and functions within TIBCO. As the principal architect of Netrics software (rebranded as TIBCO Patterns), I served as primary point of contact for other TIBCO architects seeking to deploy Patterns components in industry solutions or embed it in other TIBCO products.

Senior Software Engineer
NETRICS, Princeton, NJ
August 1999 – March 2010 (Netrics acquired by TIBCO Software)

I created the first shippable versions of a concurrent server (in C) for searching of in-memory tables of documents and fielded records, based upon a novel graph-theoretic matching algorithm developed at NEC

(see previous position below), including concurrent table management, external API, and a specialized network protocol for client-server communication.

I later re-layered the search server design to create a separable "developer's toolkit" (the product as an embeddable library), itself built upon a separable matching kernel providing the core text comparison function. Over the course of Netrics' lifetime, I continued to maintain and enhance this matching kernel functionality.

I created a data analysis infrastructure (in Python) for providing deduplication services, based upon the novel application of a disjunctive machine learning algorithm to real-valued features including the match scores computed by the Netrics search server. The DA infrastructure also included data validation tools, field integrity and data cleansing modules, algorithms for optimal grouping of matched record pairs, and a reporting engine generating high-quality configurable reports. I maintained this infrastructure for a number of years, and used it to perform analysis of tens of millions of client electronic health records.

During this period I had extensive dealings with our health information management (HIM) partners and their clients.

Over the years, I researched a number of enhancements for ML training using our novel system. Some of these were incorporated in the data services infrastructure, while some remained in the form of technical notes awaiting future implementation.

I created the first versions of all Netrics user documentation, and authored numerous technical notes and whitepapers.

Senior Research Associate
   NEC RESEARCH INSTITUTE, Princeton, NJ
January 1994 – August 1999

As research assistant to Dr. Peter Yianilos, I collaborated on the C implementation of a new linear-time algorithm for solving the classic bipartite matching problem for a wide ("quasi-convex") class of cost function. Following this, I developed an ultra-lightweight version of the same algorithm for the special case of line-like cost functions. I then used the lightweight algorithm in developing a multi-stage intelligent search method for semi-structured data repositories. This algorithm was then licensed by NEC to a new company, Netrics, for which I became lead architect in August 1999.

Most of this work for NEC was performed in the period January 1994 – July 1996, after which my employment was according to availability during the first years of my graduate program (which I started in August 1996).

Senior Software Engineer *(Franklin, August 1989 – January 1994)*
Editorial Consultant and Software Engineer *(Proximity, August 1988 – August 1989)*
FRANKLIN ELECTRONIC PUBLISHERS, Mount Holly, NJ
PROXIMITY TECHNOLOGY, Sunnyvale, CA
August 1988 – January 1994

I was responsible for all stages of electronic publication of reference works on Franklin's hand-held platforms: receipt of data (generally in the form of a typesetting tape or disk files); parsing, validation, editorial correction and resolution of logical structures; transformation of data into searchable compressed representations; UI development; final QA and release of the ROM image for the embedded platform. Particular reference works I was entirely responsible for included the Bible and the Physician's Desk Reference; with contributions to the Concise Columbia Encyclopedia and the Washington University Manual of Medical Therapeutics.

As engineer and editorial consultant to Proximity Technology (an OEM partner of Franklin acquired by Franklin in 1990), I served as content expert and edited the electronic text of the first electronic book published by Franklin, the Holy Bible. This involved the reconciliation (with reference to the Hebrew and Greek source text) of several versions of the public-domain text in electronic form; the development of a search thesaurus derived from a parallel reading of multiple Bible translations; and an inflections and stemming module for on-the-fly expansion of search terms.

Scientific Programmer
EEG SYSTEMS LABORATORY, San Francisco, CA
August 1987 – August 1988

At EEG, a small non-profit research lab, I wrote visualization and analysis tools for scientists studying brain behavior based upon large quantities of electroencephalograph data acquired from volunteers answering questions, playing games, etc.

Systems Programmer
AMETEK, COMPUTER RESEARCH DIVISION, Arcadia, CA
April 1986 – July 1987

AMETEK CRD existed to commercially market MIMD hypercube parallel processors. As systems programmer, I designed and implemented an asynchronous internode messaging system for the kernel of an operating system resident on these systems. I also served as an AMETEK contractor for the Caltech/Jet Propulsion Laboratory's parallel processing group.

Scientific Programmer
Division of Geological and Planetary Sciences
CALIFORNIA INSTITUTE OF TECHNOLOGY, Pasadena, CA
February 1985 – April 1986

Working for two professors of geophysics, I ported seismic tomography analysis software to run on experimental MIMD hypercube parallel processors.

Software Patents

U.S. Patent 10,275,518 (issued Apr. 30, 2019): "Integrated phonetic matching methods and systems."

U.S. Patent 7,107,263 (issued Sep. 12, 2006): "Multistage intelligent database search method."