Paul Crawford: *Résumé (Detailed)* (2024)

BIOGRAPHY:

Mailing Address	: 564 Go Slow Ave. (Top Fl.), Tucville, Georgetown, Guyana, South America	Nationality	: Citizen of Guyana
E-mail Addresses	: pcrawford@mac.com; paul.crawford@nyanzasoftware.com	Languages	: English; Creole (Gy); Español
		Marital Status	: Single
Telephone Nos.	: +592 690-5429 {M (& WhatsApp)}	Work permits	: N/A (No relocation)

OBJECTIVE:

Software Developer or Educator/Tutor in Computer Science (CS) or Information Technology (IT), especially within education, healthcare, infrastructure, multimedia, renewable energy, science or telecommunications.

EXPERIENCE:

May 2005–Current — **‹Independent› / Nyanza Software** — *Georgetown, Guyana*
<nyanzasoftware.com>
Owner (Sole Proprietor); Software Developer & Consultant; Contractual Educator
(Varied income; invoicing in normal range {for contractual projects / training})

- Shift-Based Full-Time Security (May 2024–Current):
  - Managed building's alarm & compound's main gate, and maintained several detailed logs.
- Independent Projects 'B' (Jan 2012–Current):
  - Developed from the ground up a modern multi-threaded Apple macOS / OS X utility to elegantly assist with Desktop tasks (remembering recently-*closed* folders, managing desktop sets, and overlaying icons with visual 'stamps'), for distribution soon via online outlets.
    [Apple Objective-C & Cocoa API. (*Mac OS X / macOS 10.6 and later*; Apple Macintosh.)]
  - Researched and wrote various portions of a novel blending history & sci-fi, incl. CS themes.
- Contractual & Voluntary Part-Time Teaching 'A'–'D' (Sep 2017–Apr 2020 {CoViD Pandemic}):-
  - 'A' (Sep 2017–Apr 2020): Guided weekly Saturday coding-camp (rapid-training) sessions in software development for mobile, web & desktop platforms, at a small vibrant community.
    [XML & Java. (*Android 5.x and later*; Various 'Smart' Phones.)]
    [HTML, CSS, JavaScript, +. (*Windows 7, 8.x & 10*; Intel Desktops & Laptops.)]
    [Visual C#, *.NET ‹Core›, WinForms, Unity, +. (*Windows 7 & 10*; Intel Desktops & Laptops.)]
  - 'D' (Nov 2019–Mar 2020): Served as substitute teacher for Information Tech., English 'A' & 'B' and Social Studies, and as full teacher for (Caribbean) History at Brickdam Secondary School.
  - 'B' (Aug 2018–Jan 2019): Trained a small group of students three afternoons each week in software development, primarily in the *.NET systems, for the BrainStreet firm.
    [Visual C#, *.NET ‹Core›, WinForms, +. (*Windows 7 & 10*; Intel Desktops & Laptops.)]
  - 'C' (Sep 2018–Dec 2018): Prepared and gave tutorial & laboratory sessions— and designed and marked a final lab project — in third-year Computer Science, at the University of Guyana.
    [*x*AMP‹P› Stack {Apache-&-PHP, SQL, +}. (*Windows 10*; Intel Desktops & Laptops.)]
- Contractual Projects (Mar 2006–Dec 2011): Engaged in long-distance outsourced continuous contracts with a former US employer (please refer to the 'Oct 1995–Jun 2000' entry below). Project tasks were somewhat as before, although this time LAN-side only, and included the following:
  - Enabled processing XML/XSL data, and complex AFP data having multi-level index tags.
  - Modernised the proprietary archive (TDS) structure; and, ported to Java the C TDS routines.
  - Maintained & enhanced an internal QA system; and, resolved customer incidents.
  [MS Visual C++; Java; Access/SQL. (*Windows XP / Server 2K3, 2K8*; Intel Desktop.)]
  [Bash Shell; Java. (*Solaris Unix*; Intel Server.)]
- Independent Projects 'A' (May 2005–Feb 2006): Recovered after a very difficult four-months period of hurdles in the departure of my pets & myself from South Africa, then worked on the following:
  - Formally registered 'Nyanza Software' as a Sole Proprietorship business (please refer to the 'Aug 2000–Apr 2002' entry below), which was also a prerequisite for subsequent contractual work.

‣ Resumed maintaining my freeware, and briefly developing the "Smart Assistant" program.
[Metrowerks CodeWarrior Development Studio C++; Java; Apple Objective-C; MCL Lisp;
HTML / XML / PHP. (*Mac OS 9.x / X 10.x+*; Apple Macintosh.)]

May 2002–Dec 2004 **University of the Witwatersrand**   *Johannesburg, RSA*
<wits.ac.za>
Senior Tutor (Junior Lecturer), Computer Science (Salary in normal range)

- Academic Duties: Prepared and gave lectures, tutorials and laboratories — and designed and marked
assignments and other assessments (including final exams) — in Computer Science courses, to first-,
second- and third-year undergraduates, with some assistance from colleagues and Honours students
(in tutorials and laboratories). The courses covered standard topics such as:- basic data-structures &
algorithms; digital logic, finite automata, logic units & an ASM "Stack machine"; and, advanced al-
gorithms (linear-time sorts, red-black/ABL trees, etc.) & introductory Artificial Intelligence (AI).
[PLT (Dr.) Scheme; GNU C++; Java; Bash. (RH Linux 6.x–7.x, Windows 2K / XP; Intel Desktop.)].
- Administrative Duties: Participated in the Teaching and Learning Committee (of the Faculty of Sci-
ence), including bimonthly meetings to receive input (and provide feedback) on best practices.
- Research Efforts: Made occasional (but largely unsuccessful) efforts to continue my long-lapsed re-
search (from my graduate-student days at the U. of Chicago). Assisted in offering research topics for
Honours-year students, and assessing Honours-year research papers.

Aug 2000–Apr 2002 **‹Independent› / Nyanza Software**   *Georgetown, Guyana*
<nyanzasoftware.com>
Owner (Informal); Software Developer (No formal income)

- Established a semi-official website, listed above.
- Developed two freeware utilities (one to perform the Desktop task of remembering recently-*closed*
folders, and the other to facilitate Internet modem scripting) entirely from scratch.
- Designed the initial version of a cross-platform "Smart Assistant" program.
[MW Codewarrior Pro C++ & Java; MCL Lisp; HTML. (*Mac OS 8.x / 9.x / X 10.x+*; Apple Mac.)]

Oct 1995–Jun 2000 **Mobius Management Systems, Inc.**   *Rye, NY, USA*
(*Acquired in July 2007 by **ASG [Tech]** → **Rocket Software**:*) <rocketsoftware.com>
Software Engineer (Salary in normal range)

Electronic Document Warehousing (EDW) and Enterprise Report Management (ERM):

- Assisted in developing & maintaining mainframe batch-&-server and LAN client/server systems for
archiving, indexing, distributing and viewing enterprise data (reports, invoices, cheques, statements),
particularly those in LPFD formats; tasks included the following:- processing image data; porting to
C/C++ many legacy routines; developing archive replication; and, enhancing the processing of IBM
AFP & Xerox Metacode data.
- Assisted in correcting systemic Year-2000 (Y2K) issues in both mainframe and LAN source code.
- Resolved several major customer incidents, assisted in improving cross-platform source code man-
agement to harmonise the mainframe & LAN sides, and developed several QA tests.
[SAS C/C++; IBM Cobol, High-Level Assembler; JCL. (*OS/390, MVS, TSO*; IBM Mainframe.)]
[MS Visual C++; Borland C/C++; Access/SQL; In-house VCS; TCP/IP; MS Word. (*Windows 3.1 / 9x /
NT*; Intel Desktop.)]

Apr 1994–Sep 1995 **Zyware Systems, Inc.**   *New York, NY, USA*
(Now closed)
Computer Programmer (Salary in normal range)

- Assisted in developing & maintaining a map-based client/server system to calculate paths between
home and work addresses, for insurance purposes.
- Developed networking DLLs and applets, as well as CGI & HTML interfaces for server maps to Web
browsers, and maintained map guides to U.S. cities, including booking services.

- Developed a central app with animation & help balloons, and maintained databases for storing route-annotations, etc.; additionally, developed e-magazines incorporating QuickTime movies.
[MS Visual C++, Visual Basic, Access/Jet/SQL; HTML / CGI; Macromedia Director. (*Windows 3.x / 95 [beta] / NT*; Intel Desktop.)]

Oct 1990–Jun 1993	**Artificial Intelligence Lab, The University Of Chicago**	*Chicago, IL, USA*

(Now dissolved; the professors involved have moved to other universities, etc.)
Teaching/Research Assistant (Stipend in normal range)

Sep 1983–Jul 1984	**Guyana Mining Enterprises (GUYMINE)**	*Linden, Guyana*

<www.guymine.com>
Computer Programming Intern (Unpaid work-study)

EDUCATION:

January 1994	**The University Of Chicago**	*Chicago, IL, USA*

<uchicago.edu>
M.Sc. (S.M.) in Computer Science
[Concentration: Artificial Intelligence (AI) / Case-Based Reasoning (CBR)]
- G.P.A. ('A' = 4.0): 3.0 (Overall), 3.5 (CBR)
- AI Tutoring System (Thesis Research in CBR); Teaching/Research Assistant

February 1990	**Brooklyn College, C.U.N.Y.**	*Brooklyn, NY, USA*

<brooklyn.cuny.edu>
B.Sc. in Computer & Information Science; Dual Major (B.A. equiv.) in Africana Studies
{Transferred from Columbia University, NYC (September 1984 - December 1986), in September 1987}
- G.P.A. [Pre-Transferral, at C.U.] ('A' = 4.0): 2.32 (Overall), 2.0 (CS)
- G.P.A. [Post-Transferral, at B.C.] ('A' = 4.0): 3.74 (Overall), 3.5 (CIS), 4.0 (AS)
- Honours: Phi Beta Kappa; Jack Wolfe Award (CIS); Daniel Mayers Award (AS); Dean's List (1988); Invitation to join the Ford Colloquium for Careers in College Teaching
- GRE General Test:- Verbal: 800 (99%r), Quantitative: 700 (81%r), Analytical: 620 (75%r)
- GRE Subject Tests:- Computer Science (CS): 700 (79%r)

July 1983	**The Bishops' High School**	*Georgetown, Guyana*

(*Social*: <Bishops' High School, Guyana [Facebook]>)
Graduation Certificate
- 3 GCE 'A' Level certificates (Mathematics, Further Mathematics, Physics)
- 8 GCE 'O' Level & CXC CSEC certificates (Biology, Chemistry, Physics, Pure Mathematics; English 'A', Geography, Mathematics, Spanish), with 2 distinctions (Physics, English 'A')
- SAT [Reasoning Test]:- Verbal: 730 (99%r), Math: 700 (97%r), TSWE: 60+ (97%r)
- SAT Achievement Tests:- English Comp.: 720 (98%r), Math Lv. II: 740 (80%r), Physics: 750 (92%r)

SKILLS OVERVIEW: {NB:- Entries in **boldface** denote active skills. Professional unless otherwise noted.}

Areas (Categories) {1–30 years}:
Analyst / Developer Programming {30 years} • **Application Development & Support {30 years}** • Data Warehousing {10 years} • Software Engineering {10 years} • Systems Analysis {1 year} • Database Management {2.5 years} • Internet Programming {4.5 years} • Mobile Programming {0.5 year}
Teaching (Tutoring, Lecturing & Training) {6.5 years}

Languages & Protocols {1–33 years}:
Assembler (IBM) {0.5 year} • Basic (MS Visual Basic) {2 years} • **C Family (ANSI C, MS Visual C++, SAS C/C++, Metrowerks CodeWarrior C/C++, Apple Objective-C, MS *.NET C♯) {33 years}** • Cobol (IBM) {2 years} • Internet & Web (HTML / CGI / XML / PHP, TCP/IP / FTP) {4.5 years} • **Internet & Web (HTML) (*Personal*) {10 years}** •

Java {8 years} • Lisp / Scheme (All) {7 years} • Pascal / Delphi (All) {2 years} • Shell Scripting (Bash) {4 years} • **Shell Scripting (Bash / Tcsh)** (*Personal*) **{10 years}** • SQL (Various) {5.5 years} • **Swift (Apple) {1.5 years}**

Platforms {3–15.5 years; 5–39 years (*Personal*)}:
Android 5.x+ (Various 'Smart' Phones) {0.5 year} • *Linux: Red Hat 6.x–7.x* (Intel Desktop) {3 years} • ***Mac OS 8.x – 10.x+* (Apple Mac) {10 yrs.}** • ***Mac System / OS 1.x – 10.x+* (Apple Mac)** (*Personal*) **{39 yrs.}** • *OS/390, MVS* (IBM Mainframe) {4 years} • *Unix (SunOS / Solaris)* (Sun Workstation; Intel Server) {3 years} • ***Unix (BSD [Mac OS X / macOS])* (Apple Mac)** (*Personal*) **{10 years}** • *Windows 9x / NT / 2K / XP / 7 / 8.x / 10* (Intel Desktop) {15.5 years} • *Windows Server 2K3, 2K8* (Intel Desktop) {5 years}

Topics (Education) {1–3 years}:
Algorithms {3 years} • Artificial Intelligence {1 year} • Automata Theory {1 year} • Computer Organisation {1 year} • Data Structures {2 years} • Digital Logic {1 year} • Software Development & Engineering {1 year} • Mobile Development {0.5 year} • Web Front-/Back-End Development {1.5 years} • Desktop+Web (MS *.NET) Development {0.5 year}

General Quantitative:
Coding Camp (Rapid Training) {2.5 years} • Committee / Team Involvement {12 years} • Computer Science (Teaching) {3.5 years} • **Information Technology {30 years}** • Project Management {2 years} • Support {6 years} • Systems Analysis {1 year}

General Qualitative:
Ability to deal with change {Good} • Ability to involve others in projects {Good} • Ability to work in a team {Excellent} • Communication skills {Very Good} • Conflict resolution {Good} • **Decision making skills {Very Good}** • **Independence (Working alone) {Excellent}** • Leadership qualities {Average} • Listening skills {Excellent} • Management & delegating skills {Average} • Motivational skills (Others) {Good} • **Motivational skills (Self) {Excellent}** • Reporting skills {Very Good} • Stress management (Others) {Good} • **Stress management (Self) {Average}**

AFFILIATIONS:

• Association of Computing Machinery (ACM)	Member, 2003+
• Apple Developer Program (ADP) [*formerly: ADC; APDA*]	Member, 1986+ (Select: 1999–2010)
• Microsoft Developer Network (MSDN)	Visual Studio Dev Essentials, 2018+; Associate Member, 1996–2000

REFERENCES (*Professional*):
[Available upon request.]

RESEARCH INTERESTS:
- Autonomous Agency and Integrative Artificial Intelligence (AI) models; specifically, the fusion of modern bottom-up (sensory / neural-layering / reactive) and classical top-down (symbolic / planning / complete-modelling) approaches, for both software agents and mobile agents/robots.
- Analogical inference systems in AI, such as Case-Based Reasoning (CBR).
- Computer-Assisted Education (automated tutoring systems), and Machine Learning.

PERSONAL INTERESTS:
- World History & Philosophy, and related Global Economy / Trade.
- Black / African Civilisations (Ancient & Modern), ranging from early Nile Valley & Nok, through the middle-era Sudanic Empires, and later forest & coastal Kingdoms & Empires, to today's nation-states.
- Community Self-Help & study groups.
- Pets & Nature, including domestic cats.