# Nathan A. Cosgray

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## Systems Analyst/Developer

Proven track record of excellence in database development, data management, and software development.
"Truly exemplary work." – Jim, IT Director, The Seattle Public Library

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| **Technical Skills** | • Microsoft SQL Server, Azure SQL Database<br>• T-SQL (queries, views, stored procedures, etc.)<br>• C#.NET, VB.NET, MVC, Entity Framework, Web API<br>• SQL Server Integration Services (SSIS)<br>• SQL Server Reporting Services (SSRS)<br>• Power BI, Tableau |

**Professional Experience**

**Analyst/Developer**                                              **The Seattle Public Library**
2015–Present                                                                    Seattle, WA

Design and implement a library operations data warehouse
– Work with stakeholders to determine data and reporting needs
– Work with data owners to identify sources and understand contexts
– Build ETL processes using SSIS, T-SQL, C#, and PowerShell
– Build enterprise reports, dashboards, and KPIs using SSRS

ASP.NET web developer for internal and external web applications and web services
– Library card registration backend API (C# Web API)
– Patron authentication supporting various industry standard APIs (C# Web API)

Implement and maintain integrations with the Library's circulation system
– Including: e-resource vendors, hold pickup lockers, checkin/checkout software

Accomplishments:
• Proposed, designed, and implemented self-service reporting for library staff
• Built 50+ end-to-end ETL processes and 150+ SSRS reports
• Grew data warehouse from zero to 1 billion rows
• Published and refreshed four datasets for the Seattle Open Data Initiative
• Project managed migration of the circulation database from Sybase to SQL Server
• Cleared $2.6 million of old overdue fines for 230,000 Seattle library patrons
• Implemented a new registration backend with automated identity verification

**Analyst/Developer**                          **IT Services, Amalga Data Warehouse**
2014–2015                                                  UW Medicine, Seattle, WA

SQL developer for the Caradigm V3 entity data pipeline
– Designed and implemented data flows, error handling, and logging
– Architected custom SSIS packages, stored procedures, and table structures

Authored reports using SQL, SSRS and SSIS, and the Amalga system
– Primary developer for "Patients Are First" institutional metrics dashboards
– Presented new reports and visualizations to UW Medicine leadership

Accomplishments:
• Wrote modular stored procedures for reuse by many data pipeline data sources
• Devised a method to improve performance by loading only when updates detected
• Wrote a C# data comparison application for use during system migration

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| **Professional Experience,** *continued* | **Senior Systems Analyst**<br>2008–2014 | **The Seattle Public Library**<br>Seattle, WA |

Managed and supported SirsiDynix Horizon Integrated Library System (ILS)
– Worked with staff, librarians, and vendors to troubleshoot and solve issues
– Created reports using SQL, VBScript, and Excel
– Planned and implemented software/hardware upgrades and migrations

ASP.NET web application and web service developer
– Developed a PayPal-based online fine/fee payment system (VB.NET)
– Wrote a 3M/SirsiDynix SIP2 API library for .NET applications (VB.NET)
– Built a suite of web services for retrieving data from library systems (VB.NET)
– Developed web tool that librarians use to track reference questions (VB.NET)

Database administrator for Sybase, SQL Server, Access, and MySQL databases

Accomplishments:
- Enabled library patrons to pay fines online, totaling over $50,000 per month
- Automated over 100 scheduled reports saving staff thousands of hours of time
- Implemented circulation database mirroring for backup, testing, and training

**Senior Computer Specialist   Center for Studies in Demography and Ecology**
2003–2008                                   University of Washington, Seattle, WA

System administrator for an academic research center
– Maintained 1,000-user Active Directory domain and 15 terminal servers
– Supported Unix infrastructure, including Apache and MySQL

Supervised student workers

Web programming projects in PHP and Perl
– Account request forms and backend request queue management system
– Workshop registration form with roster/attendance tools
– Data extraction tool for sharing specialized research dataset

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| **Education** | B.A., Computer Science<br>Indiana University, Bloomington, IN |
| **Training** | Microsoft MOC coursework: .NET Development, SQL Server, Data Warehousing<br><br>Recent conferences: SQL PASS Summit, Google I/O |
| **Certifications** | Microsoft Certified Professional (MCP) |
| **Open Source Projects** | Developer of the "Cuppa" tea timer apps for macOS, iOS, and Android<br>(github.com/ncosgray) |