Nick A. Bild, M.S.

119 Prairie Falcon Drive
Groveland, FL 34736
(616) 402-6107
nick.bild@gmail.com
https://github.com/nickbild
https://nickbild79.firebaseapp.com

See "**Press**" section below for a list of interesting projects I've been working on recently that have received significant media coverage.

Education

Master of Science - Medical and Bioinformatics, December, 2007.
Grand Valley State University, Allendale, MI.

- GPA: 3.97 / 4.0
- Outstanding Graduate Student Award (First in Class), awarded April 2008.

Bachelor of Science - Information Systems, August, 2004.
Grand Valley State University, Allendale, MI.

- Dean's List - multiple semesters.

Relevant Experience

Technical Solutions Engineer II for Sprint Corporation, Maitland, FL.
November 2018-Present.
Software Developer III for Sprint Corporation (via TEKsystems), Maitland, FL.
June 2018-November 2018.

- Architected and developed large enterprise-scale applications in Python and Golang.
- Extended and debugged legacy applications in Perl.
- Designed and optimized SQL queries for MariaDB, Oracle, and Vertica databases.
- Developer Dockerized applications for smooth deployment and shifting of resources.
- Worked on a team of ~40 software engineers in a GitLab CI/CD environment.

Staff Software Engineer for Ocean Ridge Biosciences, Deerfield Beach, FL.
December 2015-February 2018.

- Developed data analysis pipelines in Perl, Python, and R.
- Built pipelines to analyze biological data, including long RNA, noncoding-RNA, metagenomic, and xenograft data.
- Installed hardware and maintained two Sun Grid Engine clusters.
- Designed MySQL databases to manage large volumes of biological data and facilitate rapid data retrieval.
- Built public and intranet websites in PHP, Drupal, and Perl CGI.
- Developed custom web-based LIMS (Laboratory Information Management System) to manage lab operations in PHP, MySQL, JavaScript/Ajax, and HTML5.

Adjunct Professor for Palm Beach State College, Palm Beach Gardens, FL.
February 2015-December 2018.

- Taught BSC 2435 - Introduction to Bioinformatics.
- Awarded "Rookie of the Year", February 2016.

Bioinformatics Analyst III for The Scripps Research Institute, Jupiter, FL.
June 2014-December 2015.

- Developed standardized pipelines to analyze various data types, including RNA-seq, sRNA-seq, and ChIP-seq (Perl, Python, shell scripting).
- Built automated framework to transfer data from instruments (Illumina, SOLiD, Ion, etc.) to a cloud computing environment (Linux, Torque) and begin data analysis without human intervention.
- Created web-based application to track biological samples and inform automated pipelines of proper parameters and analysis methods (PHP, MySQL).
- Performed ad hoc analyses, via custom code and published tools, of many experiments for the Genomics Core and Cancer Biology departments.

Lead Software Developer for iCare.com, LLC, Fort Lauderdale, FL.
March 2012-June 2014.

- Developed new web-delivered, cloud-based EHR based on VA VistA EHR from ground up.
- Developed in GT.M, MUMPS, Javascript, HTML5, and Java.
- Analyzed and modified CPRS (Computerized Patient Record System) in Pascal.
- Installed/configured Linux services including OpenLDAP, memcached, and apache.
- Optimized, maintained, backed up, and recovered GT.M databases.
- Assigned tasks to--and assured code quality of--junior and remote software developers.

Senior Programmer Analyst for NorthShore University HealthSystem, Skokie, IL.
July 2011-March 2012.

- Epic Inpatient/Hospital Outpatient EMR programmer.
- Modified and troubleshot Programming Points and Workflow Engine Rules.
- Built a variety of inpatient-related Epic records.

Bioinformatics Programmer for the University of Chicago, Chicago, IL.
September 2008-July 2011.

- Developed bioinformatics applications in perl, python, and PHP.
- Created data analysis pipelines for the modENCODE and ENCODE projects (www.modencode.org; http://www.genome.gov/10005107).
- Developed ad hoc scripts for microarray (Agilent, Affymetrix) and sequencing (Illumina ChIP-seq, RNA-seq) data analysis in cloud-based computing environment.
- Developed pipelines for publishing microarray and sequencing data to GEO and other public repositories.
- Participated in development of a system for management/analysis of biological data (www.cistrack.org).
- Determined and implemented rules necessary for applications to comply with HIPAA.

Application Developer for Family Research Council, Holland, MI.
November 2004-September 2008.

- Developed large-scale web applications with Coldfusion, SQL, javascript, XML, and HTML.
- Developed Oracle applications with PL/SQL.
- Created and enforced best practices for software development.
- Gathered application requirements from non-technical staff.
- Trained other development staff proper Coldfusion and SQL coding techniques.
- Installed and maintained Linux and Windows servers.

Bioinformatics Consultant for Arivium, Grand Rapids, MI.
May 2007-December 2007 (Internship).

- Developed C# applications for the interrogation/visualization of millions of electronic patient medical records.
- Created tools to analyze and extract data from many clinical data warehouses.
- Created custom extensions for SpotFire DXP to visualize clinical trial data.
- Researched CDISC/Janus standards for storing and submitting clinical trial data.

Bioinformatics Research Assistant for Van Andel Research Institute, Grand Rapids, MI.
May 2007-August 2007 (Graduate School Project).

- Developed applications to support LC-MS data discovery projects.
- Researched various biological databases and created translation tools to integrate heterogeneous data sources.

Database Analyst for Annis Water Resources Institute, Muskegon, MI.
June 2004-August 2004 (Contract).

- Reversed engineered the EPA's STORET application.
- Installed and administered large-scale Oracle 9i DBMS.

Web Applications Developer for Grand Valley State University, Allendale, MI.
March 2004-June 2004.

- Developed applications with ColdFusion, JavaScript, and SQL.
- Implemented code in accordance with Fusebox methodology.
- Developed/maintained applications for massive university website.

Software Developer/Network Administrator for New Rules Marketing, Spring Lake, MI.
September 2002-March 2004.

- Developed applications with PHP, mySQL, Visual Basic, and MS Access.
- Maintained networked Linux, Windows, and MacOS workstations/servers.
- Secured a mixed environment Internet connected LAN.
- Implemented new storage methods and procedures to protect stored data.
- Maintained large-format Encad printers.

Press

AI-enabled glasses that act as a UI for the real world (https://github.com/nickbild/shaides).

- Won NVIDIA Embedded Project of the Month, September 2019 (https://developer.nvidia.com/embedded/community/jetson-projects#shaides)
- Runner Up in AARP Living in Motion contest, December 2019 (https://www.hackster.io/contests/aarp)
- https://tbtech.co/check-out-the-homemade-ai-shades-this-software-engineer/
- https://hackaday.com/2019/08/15/home-automation-at-a-glance-using-ai-glasses/
- https://blog.hackster.io/these-shaides-use-ai-to-detect-what-youre-gesturing-at-cf836cee4851
- https://nplus1.ru/news/2019/08/19/shaides

Tipper predicts if a pitch will be in or out of the strike zone in real time (https://github.com/nickbild/tipper).

- https://hackaday.com/2019/12/10/ai-knows-if-the-pitch-is-on-target-before-you-do/
- https://thenextweb.com/artificial-intelligence/2019/12/04/watch-performance-enhancing-ai-could-change-baseball-forever/

Smart glasses that selectively filter out excessively bright spots in real-time (https://github.com/nickbild/light_brakes).

- https://hackaday.com/2019/10/22/the-futures-so-bright-i-gotta-wear-lcds/

Newrons - Smart glasses with a gentle memory assist. (https://github.com/nickbild/newrons).

- https://blog.arduino.cc/2020/01/28/give-your-memory-a-boost-with-newrons/

Eyeglass-mounted device that can be configured to locate a specific type of object and track it with a laser (https://github.com/nickbild/artemis).

- https://hackaday.com/2019/12/07/upgrade-your-shades-to-find-lost-items/

Custom-built general purpose, programmable, 6502-based computer and operating system (https://github.com/nickbild/vectron_64).

- https://hackaday.com/2019/04/19/a-nearly-practical-6502-breadboard-computer/
- https://blog.adafruit.com/2019/04/09/from-the-forums-a-6502-based-retro-computer-build-vintagecomputing-retrocomputing-adafruit-adafruit/
- http://www.electronics-lab.com/diy-programmable-6502-based-computer-operating-system/

Virtual Reality Peripheral for Vectron 64 (https://github.com/nickbild/vectron_vr).

- https://hackaday.com/2019/06/23/vr-on-the-6502/
- https://www.eeweb.com/profile/max-maxfield/articles/omg-a-6502-based-virtual-reality-system
- https://blog.adafruit.com/2019/06/19/vectron-vr-6502-virtual-reality-vr-vintagecomputing-graphics-adafruit-fromtheforums-adafruit/

Play Doom on a giant screen using your body as the controller (https://github.com/nickbild/doom_air).

- https://hackaday.com/2019/07/22/gesture-controlled-doom/
- https://www.eeweb.com/profile/max-maxfield/articles/playing-doom-on-a-giant-screen
- https://blog.hackster.io/use-ai-on-an-nvidia-jetson-nano-to-play-doom-using-full-body-gestures-e6facd7e57b7
- https://www.heise.de/make/meldung/Doom-mit-Gesten-steuern-dank-Jetson-Nano-und-Kuenstlicher-Intelligenz-4478114.html

I was featured in the January 2020 issue of Practical Electronics magazine.

- https://www.epemag.com/proj/0120.html

I wrote, filmed, and starred in a Holiday advertisement for NVIDIA.

- https://www.facebook.com/NVIDIAEmbedded/videos/2751673244889195

Publications

Gustavo J. Martinez, Joyce K. Hu, Renata M. Pereira, Jordan S. Crampton, Susan Togher, **Nicholas Bild**, Shane Crotty, and Anjana Rao. (2016). NFAT Transcription Factors Promote the Generation of Follicular Helper T Cells in Response to Acute Viral Infection. **The Journal of Immunology**, 196 (4).

Nègre N, Brown CD, Ma L, Bristow CA, Miller SW, Wagner U, Kheradpour P, Eaton ML, Loriaux P, Sealfon R, Li R, Ishii H, Spokony RF, Chen J, Hwang L, Chen C, Auburn RP, Davis MP, Domanus M, Shah PK, Morrison CA, Zieba J, Suchy S, Senderowicz L, Victorsen A, **Bild NA**, Grundstad AJ, Hanley D, MacAlpine DM, Mannervik M, Venken K, Bellen H, White R, Gerstein M,

Russell S, Grossman RL, Ren B, Posakony JW, Kellis M, White KP. (2011). A Cis-Regulatory Map of the Drosophila Genome. **Nature**, 471, 527-531.

Presentations

Bild, N. 2010, “Bio-Info-What-Now? IT Beyond TPS Reports”, *Management of Information Systems*, Allendale, MI, Grand Valley State University.

Bild, N. 2010, “Bio-Info-What-Now? IT Beyond TPS Reports”, *Internship Preparation*, Allendale, MI, Grand Valley State University.

Bild, N. 2009, "Re-analysis using Cistrack", *modENCODE Analysis Working Group*, Cambridge, MA, Massachusetts Institute of Technology.

Conference Papers

Elizabeth Bartom, Casey Brown, **Nick Bild**, Robert Grossman, Analysis pipelines for Next Generation Sequencing data. Feb 25, 2011, Chicago, IL, United Stated, Chicago Center for Systems Biology.

C. Frankenberger, S. Basu, **N. Bild**, A. Potti, M. Raponi, Y. Wang, D. G. Beer, J. Coon, P. Bonomi, J. A. Borgia, Expression profiles associated with disease progression in non-small cell lung cancer. Jun 4-8, 2010, Chicago, IL, United States. American Society of Clinical Oncology.

Selected Academic Research Projects

ClinicalTrials.gov Data Extraction
Arivium

- Created a means by which to extract all data from the clinicaltrials.gov database programmatically.
- Designed and built a database structure appropriate for storing a local copy of the data.

GEMS Silhouette
Arivium

- Assisted in the development of a large-scale web application designed to visualize data from millions of clinical trial records.
- Application has been subsequently licensed to multinational pharmaceutical companies for use in research and development.

GeneTiles: Subsequence Density Visualizer
Grand Valley State University

- Developed a novel bioinformatics application to analyze the relative density of repeating residues (amino acids or nucleotides) at locations along the entire biological sequence.
- Tool useful for visualizing short, non-specific restriction enzyme digest sites.

Parallelized Algorithm for Edge Detection in Raster Images of Biological Structures
Grand Valley State University

- Developed a high performance, multi-threaded algorithm for detecting biological structures of varying morphologies in image files.

Honors / Memberships

- Won NVIDIA Embedded Project of the Month (https://developer.nvidia.com/embedded/community/jetson-projects#shaides). September 2019.
- Named “Runner Up” in AARP Living in Motion contest for my project ShAIdes (https://www.hackster.io/contests/aarp). December 2019.
- Finished 32nd out of 3,325 participants in the 2016 National Security Agency Codebreaker Challenge. January 2017.
- Palm Beach State College, Rookie of the Year, awarded February 2016.
- Grand Valley State University, Outstanding Graduate Student Award (First in Class), awarded April 2008.
- United States Parachute Association, licensed skydiver (A-52296), awarded September 2006.

Professional Certifications

- Certificate of Study in Christian Apologetics. Biola University, November 2014.
- EpicCare Inpatient Procedure Orders Certification (Epic 2010), November 2011.
- EpicCare Inpatient Decision Support Certification (Epic 2010), November 2011.

Volunteer Work

- Food Packager, Kids Against Hunger. October 2012.
- MediaShout Technician, Community Christian Church. Tamarac, FL. October 2012-June 2014.
- ProPresenter Technician, The Grove Church, Clermont, FL. May 2017-Present.